



# NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

## THESIS

**HOW LAFD CERT MAY BE UNDERSTOOD AS A SMART  
PRACTICE: HOW IT IS PIONEERING A TRANSITION  
TO WHOLE COMMUNITY CERT AND HOW IT CAN  
SERVE AS THE TEMPLATE FOR CERT PROGRAMS  
NATIONALLY**

by

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June 2014

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NATIONALLY**

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## **ABSTRACT**

In 1987, the Los Angeles Fire Department (LAFD) established the first Community Emergency Response Training (CERT) Program in the United States as a framework for organizing citizens to be more prepared. Using an appreciative inquiry approach, this thesis investigated how LAFD CERT can be understood as a smart practice and how successes might assist other agencies in constructing successful CERT programs within their jurisdictions. The conclusions are that through collaborative efforts with agencies within a city, expanding the outreach of CERT can be instrumental in achieving a more robust trained citizenry. Focusing on community resiliency and whole community concepts, LAFD CERT and others like it will be better equipped to assist as assets in the homeland security enterprise.

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## LIST OF ACRONYMS AND ABBREVIATIONS

ACS	Auxiliary Communications Services
ADA	Americans with Disabilities Act
ARC	American Red Cross
ARRL	American Radio Relay League
ASL	American Sign Language
BC	battalion chief
CAD	computer aided dispatch
CalEMA	California Emergency Management Agency
CalOES	California Office of Emergency Service
CAT	Community Action Teams
CCG	CERT Coordinator Guidebook
CERT	Community Emergency Response Team
CIA	critical incident application
CPAB	Community Police Advisory Board
CPR	cardio pulmonary resuscitation
CRO	community relations officer
DAC	disaster awareness course
DHS	Department of Homeland Security
DOC	Department Operations Center
DOT	Department of Transportation
DSW	disaster service worker
DVN	Disaster Volunteer Network
EMD	Emergency Management Department
EMI	Emergency Management Institute
ERG	Emergency Response Guidebook
FEMA	Federal Emergency Management Agency
FOG	Field Operating Guide
GPS	Global Positioning System
HOA	homeowner association
HS	homeland security

HSPD	Homeland Security Presidential Directive
ICS	Incident Command System
JIT	Just in Time
LACCP	Los Angeles City CERT Program
LACoFD	Los Angeles County Fire Department
LAFD	Los Angeles Fire Department
LAPD	Los Angeles Police Department
LASD	Los Angeles Sheriff Department
MCI	mass casualty incident
MFC	Metro Fire Communications
MOA	memorandum of agreement
MRC	Medical Reserve Corps
NGO	non-governmental organizations
NIMS	National Incident Management System
NPD	National Preparedness Directive
NVOAD	National Volunteer Organizations Active in Disasters
OA	operational area
OES	Office of Emergency Services
ONCONUS	outside the continental United States
POD	points of distribution
PM	program manager
PPE	personal protective equipment
PSA	public service announcement
RA	reasonable accommodation
SCA	sudden cardiac arrest
SLO	senior lead officer
TTT	train the trainer
USGS	United States Geological Survey
VBC	Volunteer Battalion Coordinator
VDC	Volunteer Division Coordinator
VIP	Volunteers in Policing
VRC	Volunteer Resource Center



# **EXECUTIVE SUMMARY**

## **BACKGROUND**

In 1987, the Los Angeles Fire Department (LAFD) establish the first Community Emergency Response Team (CERT) Program in the United States as a framework for organizing citizens to “Be More Prepared.”<sup>1</sup> Using an appreciative inquiry approach, this thesis investigated how LAFD CERT can be understood as a smart practice and how its successes might assist other agencies in constructing successful CERT programs within their jurisdictions. Over the past 28 years, LAFD has been effective in training more than 60,000 citizens and is focused on expanding that number to 400,000 or 10 percent of the population in Los Angeles.<sup>2</sup> Through a collaborative effort, the City’s Emergency Management Department (EMD), the Los Angeles Fire Department (LAFD), and the Los Angeles Police Department (LAPD) have made recommendations towards a different approach for achieving not only this goal, but also others that might enhance existing programs or assist in constructing new ones.

## **KEY RESEARCH FINDINGS**

Often times, communities and agencies struggle to construct community emergency response teams (CERT) for a multitude of reasons. Key factors associated with this problem; no formalized system or model currently exists. The absence of funding and often political backing can create a gap for those seeking to develop a CERT program. Can LAFD CERT be understood as a smart practice and how it is pioneering a transition to whole community CERT and how it can serve as the template for CERT programs internationally. This thesis explores this question and provides a case study on the first CERT program ever developed.

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<sup>1</sup> CERT Los Angeles, “What is CERT?” accessed November 18, 2013, <http://www.cert-la.com/whatiscert.html>.

<sup>2</sup> Brian Cummings (Fire Chief Los Angeles Fire Department), telephone conversation August 12, 2013.

The Community Emergency Response Team concept is not new but until 2003 when *Presidential Directive 8* (HSPD-8) was released,<sup>3</sup> the idea of training citizens to be an integral component of the national preparedness campaign was not a big priority. The events of September 11, 2001, truly brought the act of building resilience to the forefront. Capitalizing on the citizenry's desire to contribute to our nation's security, directives and documents were established that contribute to the support of community based preparedness programs.

In order to present LAFD CERT as a smart practice and to evaluate its evolution to achieving "whole community" success, the research presented it as a case study to amass applicable practices. Research did not produce any literature asserting that a best practice model currently exists. Utilizing 20 years of experience and institutional knowledge, I presented the main tenets of that experience that enable an intimate look into one of the largest CERT programs internationally. The desired outcome would result in a template that is scalable and easily adaptable to implement any size CERT program.

The conclusion of this thesis includes recommendations for new or existing CERT programs to consider in their mission of achieving a whole community framework in the homeland security enterprise.

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<sup>3</sup> U.S. Department of Homeland Security, *Homeland Security Presidential Directive (HSPD-8): National Preparedness* (Washington, DC: White House, 2003).

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## **I. INTRODUCTION**

### **A. PROBLEM STATEMENT**

In 1985, a group of Los Angeles Fire Department officials traveled to Japan as part of professional international exchange delegation. During their visit, the massive Kyoto Earthquake occurred, and they observed community volunteers playing a significant role in post-disaster support and response. The same team made a subsequent trip that year to Mexico after the 8.1 Mexico City Earthquake that took 10,000 lives. Los Angeles Fire Department (LAFD) officials watched ordinary citizens become first responders, providing life-saving services.

In 1987, the LAFD established the first Community Emergency Response Training (CERT) Program in the U.S. as a framework for organizing citizens to “Be More Prepared.”<sup>1</sup> Since 1987, every major disaster in every county or city with a CERT has benefitted from the valuable life-saving contributions of trained civilians. The CERT program is now recognized by the Federal Emergency Management Agency (FEMA) as a smart practice to assist citizens in understanding their responsibility in preparing for and responding to disasters.<sup>2</sup> The LAFD CERT program developed several tiers of training through collaborative efforts with American Red Cross (ARC), which ultimately led to a memorandum of agreement (MOA) between the two agencies. This agreement was a benefit to both agencies through the sharing of resources and expanded training to volunteers. Due to its history and structured organizational practices in utilizing volunteers, the ARC agreed to provide background investigations on trained volunteers in CERT and those interested in being involved with both entities. Along with the backgrounds, the ARC conducted an abbreviated course in shelter operations/management, which more potential trained volunteers that could be added to the ARC database. “Potential” is used to describe this group and is predicated on the

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<sup>1</sup> CERT Los Angeles, “What is CERT?,” accessed November 18, 2013, <http://www.cert-la.com/whatiscert.html>.

<sup>2</sup> Ibid., 1.

choice that trained volunteers have when both agencies are deployed to a disaster. Other agencies have also taken active roles in providing advanced training to CERT volunteers. The department of transportation (DOT) provides traffic control classes to CERT volunteers who participate in these advanced levels of training. LAFD CERT constructed its own specific levels of training to assist with keeping its trained volunteers more actively engaged. Examples of those levels are illustrated in Table 1.

Table 1. LAFD CERT levels

<b>CERT Level</b>	<b>Hours</b>	<b>Course</b>	<b>Total Hours</b>
Level 1	17.5	Basic CERT (1-9)	17.5
Level 2	17.5	Basic CERT (1-9)	34.5+
	3.0	Disaster Services: An Overview Or Fulfilling Our Mission AND Mass Care: An Overview Or Community Services Overview	
	6.5	Shelter Operations & Shelter Simulation	
	7.5+	Standard First Aid with CPR/AED Adult plus CPR-Child and Infant Or Adult CPR/AED with Pediatric CPR Or Standard First Aid with CPR/AED-Adult Or Wilderness and Remote First Aid Or Heartsaver First Aid CPR/AED	
	17.5	Basic CERT (1-9)	

Level 3	3.0	Disaster Services: An Overview Or Fulfilling Our Mission AND Mass Care: An Overview Or Introduction to Disaster Services AND Mass Care: An Overview Or Community Services Overview	77+
	6.5	Shelter Operations	
	50.0+	High Adventure First Aid Or Emergency Medical Response Or EMT training Or Wilderness First Responder	

To help expand the program to other federal, state, local, and tribal entities, the Emergency Management Institute (EMI) and the National Fire Academy have adopted and further developed CERT materials, making it applicable to all hazards.<sup>3</sup>

The LAFD CERT program has established a tremendous following since its inception in 1987. Today, it is responsible for training 4000 citizens annually, with six fulltime instructors. Aside from the normal 20-hour delivery of the CERT curriculum, the program has been successful in incorporating a customized three-hour delivery of disaster preparedness information under the label of Disaster Awareness Course (DAC) to the private sector, government agencies, business, special access and functional needs communities, and senior living facilities. Other countries, such as Japan China, and France, that have sought to emulate the LAFD CERT program have recently visited Los Angeles to acquire more information with regard to its success and implementation.

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<sup>3</sup> Ibid., 2.

As a result of the volume of citizens trained under the LAFD CERT program, Citizen Corps consistently uses the LAFD model as the source for its own smart practices, and the LAFD cadre to assist in “Train the Trainer” and program manager deliveries to aid in the national expansion of CERT.<sup>4</sup> FEMA and EMI also developed a program manager course for participants interested in establishing and sustaining a local CERT program.<sup>5</sup> Continued expansion of the LAFD CERT model will enable the program to further establish other collaborative relationships with agencies within the city that would benefit from CERT training.

LAFD CERT command is transitioning into a “Whole Community” program. The LAFD CERT definition of whole community is modeled to support the FEMA definition of whole community:

A means by which residents, emergency management practitioners, organizational and community leaders, and government officials can collectively understand and assess the needs of their respective communities and determine the best ways to organize and strengthen their assets, capacities, and interests. By doing so, a more effective path to societal security and resilience is built.<sup>6</sup>

Today’s crises require government to engage, at every level, with resources within affected communities following disasters. The need to plan for the entire community—background, demographics, and/or challenges—will require moving past the traditional, “government-centric” approach to emergency management and embrace a holistic philosophy that leverages and serves the Whole Community.<sup>7</sup> In other words, the

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<sup>4</sup> Federal Emergency Management Agency, “About Community Emergency Response Teams,” August 8, 2008, <http://www.fema.gov/community-emergency-response-teams/about-community-emergency-response-team>.

<sup>5</sup> Emergency Management Institute National Emergency Training Center, “E427 Community Emergency Response Team (CERT) Program Manager,” June 18, 2012, <http://training.fema.gov/EMIGrams/2012/905%20-%20Training%20Opportunity%20-%20E427%20CERT%20Program%20Manager%20FY2013.pdf>.

<sup>6</sup> Federal Emergency Management Agency, “A Whole Community Approach to Emergency Management: Principles, Themes, and Pathways for Action,” December 1, 2011, <http://www.fema.gov/media-library/assets/documents/23781?id=4941>.

<sup>7</sup> The Infrastructure Security Partnership, “A Whole Community Approach to Emergency Management,” accessed February 15, 2014, <http://www.tisp.org/index.cfm?cdid=12046&pid=10260>.



original fire department-led interaction with private citizens should be expanded to include all levels and sectors of society, integrated into a seamless preparedness and response ecosystem. As in 1987, Los Angeles—and LAFD in particular—appears to be ahead of the national curve on this transition, making it a worthwhile case for observing that transition and modeling it for other cities. In response to a growing senior population resulting from the aging baby boom, the population at large will undoubtedly become more diverse. In response to this challenging new demographic structure, FEMA administrator Craig Fugate testified in front of Congress, “A government-centric approach to disaster management will not be enough—entire societies must fully engage to meet the challenges that catastrophic incidents might present.”<sup>8</sup>

## **B. RESEARCH QUESTION**

This research paper explores how LAFD CERT may be understood as a smart practice: how it is pioneering a transition to Whole Community CERT and how it can serve as the template for CERT programs nationally.

## **C. SIGNIFICANCE OF RESEARCH**

This thesis contributes to the emergency preparedness and volunteer literature as it discusses the effectiveness of CERT training, CERT delivery, organizational management and operations involving multiple agencies training volunteers. The main objective of this research is to identify the innovations and smart practices of that LAFD Whole Community initiative, the aim of which is to increase the number of CERT trained volunteers to 10 percent of the four million citizens in Los Angeles. Ultimately, the goal is to explain and illustrate LAFD CERT programs’ successes in training, motivating, and maintaining a volunteer force capable of supporting first responders in the field during catastrophic events affecting a large metropolitan area. This study should lend itself to the

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<sup>8</sup> “Federal Emergency Management Agency, Administrator Craig Fugate, before the U.S. house Transportation and Infrastructure Committee, subcommittee on economic development public buildings and emergency management at the Rayburn House Office Building, ‘Improving the Nation’s Response to Catastrophic Disasters: How to Minimize Costs and Streamline our Emergency Management Programs,’” new release, March 30, 2011, <http://www.dhs.gov/news/2011/03/30/administrator-craig-fugate-federal-emergency-management-agency-transportation-and>.

construction of a model that can be used by municipalities and counties as a template across the country.

The purpose of this research is not to assert that the LAFD is the only agency to attempt a whole community approach, nor to compare LAFD to any other CERT program in terms of structure or performance. However, LAFD CERT does enjoy wide recognition as the first, the biggest, and one of the most successful CERTs, and it is therefore a premise of this research that it is a model worth documenting, understanding, and emulating.

#### **D. RESEARCH DESIGN**

This project combines several research techniques, and the analytical framework is appreciative inquiry. Appreciative inquiry is a strategy for purposeful change that identifies the best of “what is” to pursue and possibilities of “what could be.”<sup>9</sup> The method of appreciative inquiry was used for this thesis because it allows the researcher to look at the core strengths and values of the program.<sup>10</sup> It centers on what is right and working, rather than looking for deficiencies. This research set out to describe the successes, or perceived successes, of the LAFD CERT program. Appreciative inquiry works on the premise that within organizations, something works effectually, and change can be managed through the identification of what works and the analysis of how to do more of what works. Appreciative inquiry is a generative change process, a process that constantly creates and re-creates.<sup>11</sup> The customary approach to change is to seek out issues/problems, stipulate a diagnosis, and verify an answer. On the other hand, the customary approach looks for what is wrong, and because we are seeking problems, we discover them and often blow them out of proportion.

Appreciative inquiry became an area of study in the mid-1980s by Dr. David Cooperrider at Case Western Reserve University. Dr. Cooperrider believed that by

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<sup>9</sup> Charles Elliot, *Locating the Energy for Change: An Introduction to Appreciative Inquiry* (New York: Random House, 1999), 288.

<sup>10</sup> Sue Hammond, *The Thin Book of Appreciative Inquiry* (Plano, TX: Thin Book Publishing, 1998).

<sup>11</sup> Elliot, *Locating the Energy for Change*.

studying what works within an organization makes it possible to duplicate it and sustain the achievement. Looking through an appreciative eye, organizations are able to do more of what works rather than looking for what does not.<sup>12</sup> Through the appreciative eye, the content of this study was analyzed to determine if its successes are in fact a “smart practice” and if it can be replicated in other agencies.

There is a close similarity to appreciative inquiry and “smart practice” research. According to Bardach, a “smart practice” research can also be described as “best practice” and even “good practice” primarily because if something is interesting enough to draw attention, it may have something unique that others would want to adopt. It is the uniqueness that warrants a deeper analysis in order to present the programs ideas with regard to what does not work as well as what does.”<sup>13</sup>

The subject of this research is the Los Angeles Fire Department’s (LAFD) Community Emergency Response Training (CERT) Program. The LAFD CERT was the first of its kind and is widely perceived as the national leader among the 2,293 CERT programs throughout the United States. Not only is it the oldest such program in existence, but it has grown into a large force multiplier within Los Angeles. The organizational structure illustrates the expansion of CERT and how it has incorporated the Whole Community concept. While it is not possible to prove that the LAFD CERT Program is categorically the best model, it is widely perceived as both successful and innovative, and therefore merits close study and replication.<sup>14</sup>

Information for this study was drawn from internal documents, email communications, notes, as well as recollection from the author’s participation in departmental workgroups, information gathered from bimonthly meetings with volunteer battalion coordinators, and monthly meetings with council districts and neighborhood

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<sup>12</sup> David L Cooperrider and Diane K. Whitney, *Appreciative Inquiry: A Positive Revolution in Change*, 1<sup>st</sup> ed. (San Francisco, CA: Berrett-Koehler, 2005).

<sup>13</sup> Eugene Bardach, *A Practical Guide for Policy Analysis: The Eightfold Path to More Effective Problem Solving* (Los Angeles: Sage, 2012).

<sup>14</sup> Federal Emergency Management Agency, “About Community Emergency Response Team,” last modified August 8, 2012, <http://www.fema.gov/community-emergency-response-teams/about-community-emergency-response-team>).

council representatives. The main source of data for the study is the experiences and knowledge of the researcher, who is currently the LAFD CERT program manager and administrator. The researcher possesses unique and intimate knowledge and understanding of the development and performance of these programs.

As a 28-year member of the LAFD, the researcher has had the opportunity to work with volunteers and other CERT program managers in the operational area (OA), be directly involved in the program from its formative years, and experience every stage and direction of its growth. The researcher's proximity to the programs and personnel in question may have influenced or biased the judgment of her in unknowable ways. However, the analysis is supported by documentation, and a sincere effort was made to acknowledge counterarguments and challenges as appropriate.

Areas explored for this research included the challenges of incorporating trained volunteers into organizational frameworks normally found in fire departments. Other areas include new concepts that have been incorporated into LAFD CERT. How trained volunteers are utilized in the LAFD and how to increase the number of those volunteers from 10 percent to 400 percent of the current population (four million).<sup>15</sup>

The goal of this research is to look inside the LAFD CERT program through the appreciative eye to evaluate it as a smart practice. The research suggests that it is a smart practice. As such, the next step is to present it as a guidance document that can be adopted by communities that want to construct a CERT program of their own or for current CERT programs that wish to explore avenues to expand their existing programs and offer additional opportunities to engage their volunteers.

Ideally, the research presents program components that are adaptable, functional, and that can be implemented by other CERT programs internationally. The research will allow CERT programs that are smaller than LAFD CERT to have a well-documented menu of possible tried and tested practices. These practices can provide support to first

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<sup>15</sup> United States Census Bureau, "State and County QuickFacts," last modified March 27, 2014, <http://quickfacts.census.gov/qfd/states/06/0644000.html>.

responders during catastrophic events and assist in keeping CERT volunteers engaged, which will increase resiliency throughout the whole community.

## **E. THESIS ORGANIZATION**

This research discusses the LAFD CERT program as a smart practice and focuses on specific components and how they are contributing to a whole community approach within Los Angeles. Chapter II of this thesis provides a literature review of homeland security (HS) documents, state and local documents, as well as internal resources of the LAFD and how these documents relate to citizen preparedness and the value of trained volunteers in the HS enterprise. The literature also looks at CERT training related to increased resiliency, convergent volunteers, volunteers working with the incident command structure, and how LAFD CERT is supporting the department of homeland security mission.

Chapter III discusses the origins and history of CERT, how it has evolved, where it is currently, and how it is aligning with the “whole community” concept. Chapter IV is a case study of LAFD CERT and presents its core aspects. It presents the information necessary to begin answering the research question with regard to a smart practice and template for other CERT agencies to consider. It includes the highlights of the program beyond the basic curriculum of how CERT trained volunteers are integrated into the LAFD organization their participation within Los Angeles and its documented success in incorporating preparedness into the community’s daily activities.

Chapter V is a discussion of the findings and recommendations for presenting the LAFD CERT program as a smart practice and model that can be utilized by other agencies to construct or enhance their CERT programs. It also offers suggestions for maintaining span of control and administration of active trained CERT volunteers with regard to their integration into the public and private sectors of communities.

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## II. LITERATURE REVIEW

The review conducted for this thesis examines literature surrounding some of the current concepts and uses of CERT volunteers relevant to the research question and problem space. This review begins looking at earlier uses of CERT training and its impact on emergency response and community resiliency. Secondly, the use of trained volunteers and convergent volunteers in disaster response and recovery efforts will be covered. Thirdly, the concept of incorporating federal guidelines and internal documents of the LAFD as they relate to organizational structure and hierarchy in resource management is presented. Next, the literature review focuses on how LAFD CERT supports the Department of Homeland Security (DHS) mission with regard to federal frameworks. Lastly, the research examines the value of trained volunteers and offers an example of how they effectively save lives.

### A. CERT TRAINING AND RESILIENCY

Training citizens to be more self-sufficient and assist others can increase the resiliency of a community. It is important to provide training that makes sense to the target audience. According to California Office of Emergency Service (CalOES), there are four phases of emergency management: mitigation, preparedness, response, and recovery.<sup>16</sup> Lichterman describes the components of CERT training as examples of soft mitigation—fire suppression, sandbagging, search and rescue, and medical aid.<sup>17</sup> Flint and Brennan point out that in order for CERT training to be effective, it needs to consider the citizenry to which it is targeted as well as the relevance of that training to those citizens.<sup>18</sup> The Northridge earthquake in 1994 provided the first incident where CERT

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<sup>16</sup> Federal Emergency Management Agency, “Recovery Response Preparedness Mitigation,” accessed November 11, 2013, [www.calema.ca.gov/PlanningandPreparedness/.../PHASES%20OF%20E](http://www.calema.ca.gov/PlanningandPreparedness/.../PHASES%20OF%20E).

<sup>17</sup> Joshua D. Lichterman, “A ‘Community as Resource’ Strategy for Disaster Response,” *Public Health Reports* 115, no. 2–3 (2000): 263.

<sup>18</sup> Courtney Flint and Mark Brennan, “Community Emergency Response Teams: From Disaster Responders to Community Builders,” *Rural Realities* 1, (2006), <http://www.ruralsociology.org/wp-content/uploads/2012/03/Rural-Realities-1-3.pdf>.

members utilized their training. Borden and Lee (2002) stated in their article, “The Real First Responders,” that CERT members effectively mitigated potential emergencies within their neighborhoods. The article also provided useful statistics relating to the actions these CERT members performed: 203 searches, 17 rescues, treated 57 injured survivors, extinguished a handful of fires, transported via private vehicle, 11 injured to local area hospitals, and effectively handled the shutdown of 156 utility problems.<sup>19</sup>

Many other disasters have provided examples of CERT effectiveness. Following the devastating Joplin Missouri tornado, 97 CERT members from Christian County volunteered over 3,500 hours, which included search and rescue and teaming with local Red Cross to provide family assistance.<sup>20</sup>

## **B. CONVERGENT VOLUNTEERS**

The literature reveals that most volunteers who show up to help when large-scale disasters occur are untrained and unmanaged. These “convergent” volunteers are at best marginally effective if organizations and management systems have not anticipated and planned for the integration of spontaneous volunteer resources.<sup>21</sup> In *Meaning Well is not Enough—Perspectives on Volunteering*, Jane M. Park offers a useful working definition of a volunteer:

A volunteer is an individual who chooses to participate in activities perceived by that person to promote human welfare, human dignity, and social justice when those activities are not the source of one’s livelihood, require involvement beyond what is expected of all citizens (e.g., voting) or of all volunteers of an organization (e.g., paying dues), and are

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<sup>19</sup> Frank Borden and Robert Lee, “The Real First Responders,” *Homeland Protection Professional*, (September/October 2002): 30–33.

<sup>20</sup> “Stories from Across the U.S.,” *CERT National Newsletter* 4, no. 4 (July 2013), [http://www.fema.gov/media-library-data/20130726-1908-25045-6990/fema7207\\_cert\\_newsletterinteractive\\_4\\_4\\_accessible.pdf](http://www.fema.gov/media-library-data/20130726-1908-25045-6990/fema7207_cert_newsletterinteractive_4_4_accessible.pdf).

<sup>21</sup> Lauren Fernandez, “Volunteer Management System Design and Analysis for Disaster Response and Recovery” (Dissertation proposal, George Washington University, 2005), [http://www.academia.edu/549376/Volunteer\\_management\\_system\\_design\\_and\\_analysis\\_for\\_disaster\\_response\\_and\\_recovery](http://www.academia.edu/549376/Volunteer_management_system_design_and_analysis_for_disaster_response_and_recovery).



conducted in a manner consistent with the ideals of a free, democratic, pluralistic society.<sup>22</sup>

Fritz and Matthewson concur and point out that fire department volunteers perform services—without payment and/or financial compensation—to help others gain personal satisfaction and to give back to their communities or causes they believe in. Often, volunteers converge following disaster situations as a result of proximity to the event or due to their personal identification with the survivors.<sup>23</sup>

Major disasters often cause a greater response of convergent volunteers. This response can be expected when communities understand that local response organizations are overwhelmed. Media coverage that brings visual images of survivors and the devastation from the disaster into the homes of viewers in nearby communities and states often results in a convergence of volunteers due to feelings of empathy and compassion for those affected.<sup>24</sup> Additional resources can be beneficial to the outcome of large disasters and, at the same time, can cause additional stress to the affected community. For this reason, volunteer resource centers (VRC) are able to accommodate large numbers of these convergent volunteers. The VRC registers volunteers, capture special skills, if any, and refer them to agencies needing assistance.<sup>25</sup> “Convergent,” unaffiliated,” and “spontaneous”—these titles are synonymous with regard to volunteers who are not associated with a recognized disaster response agency. Tens of thousands of untrained volunteers have responded to disasters. Not only do they lack training and experience, according to researchers, they often fall into one of the following six categories:<sup>26</sup>

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<sup>22</sup> Jane M. Park, *Meaning Well is Not Enough—Perspectives on Volunteering* (Englewood Cliffs, NJ: Groupwork Today, Inc. 1983).

<sup>23</sup> Charles E. Fritz and J. H. Matthewson, *Convergence Behavior in Disasters: A Problem in Social Control* (Disaster Study no. 9) (Washington, DC: National Academy of Sciences, 1957), [http://archive.org/stream/convergencebehav00fritrich/convergencebehav00fritrich\\_djvu.txt](http://archive.org/stream/convergencebehav00fritrich/convergencebehav00fritrich_djvu.txt).

<sup>24</sup> Lisa Orloff, *Managing Spontaneous Community Volunteers in Disasters: A Field Manual* (Boca Raton, FL: CRC Press, 2011), 151–153.

<sup>25</sup> Florida Commission on Community Service, “Tally Red Cross,” last modified 2000, [www.tallyredcross.org/library/UnaffiliatedVolunteersInResponseAndRecovery.pdf](http://www.tallyredcross.org/library/UnaffiliatedVolunteersInResponseAndRecovery.pdf).

<sup>26</sup> Points of Light, “Managing Spontaneous Volunteers,” last modified 2006, [http://www.mivolunteers.org/CMDocs/VCM/Resources/DisasterResponse/Managing\\_Spontaneous\\_Volunteers\\_in\\_Times\\_of\\_Disaster\\_2009\\_UPS\\_HON\(1\).pdf](http://www.mivolunteers.org/CMDocs/VCM/Resources/DisasterResponse/Managing_Spontaneous_Volunteers_in_Times_of_Disaster_2009_UPS_HON(1).pdf).

1. Helpers—people who come to help survivors or responders
2. Returnees—people who live in the disaster impacted area but were evacuated
3. The anxious—people from outside impact zone attempting to get information about family and friends
4. The curious—people who want to see the devastation left behind by the disaster
5. Fans or supporters—people who gather to express gratitude to first responders
6. Exploiters—people who try to use the disaster for personal gain or profit

Of these groups, the helpers should be identified out of the larger population of convergent volunteers, as they are most likely to provide tangible assistance during the response and recovery efforts.<sup>27</sup> Convergent volunteers can be provided just-in-time (JIT) training, which makes them a more valuable resource to the agency with whom they are assigned. This training is often delivered while these volunteers are awaiting placement. The training is typically brief and generalized for all volunteers—regardless of their role—that emphasizes core competencies and safety for all involved.<sup>28</sup>

### **C. VOLUNTEERS AND THE INCIDENT COMMAND SYSTEM**

According to Fernandez, crisis situations are ideal settings for collective behavior because they can create a consensus of opinion about what needs to be done.<sup>29</sup> Following large disasters, first responders are often overwhelmed and focused on scene management via the incident command system (ICS).<sup>30</sup> ICS adds value in organizing trained volunteers as well as spontaneous volunteers. Arlington Fire Chief James Schwartz, Incident Commander for the Pentagon on 9/11, noted:

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<sup>27</sup> Ibid., 21.

<sup>28</sup> Orloff, *Managing Spontaneous Community Volunteer*, 165.

<sup>29</sup> Fernandez, “Volunteer Management System Design.”

<sup>30</sup> An ICS enables integrated communication and planning by establishing a manageable span of control. An ICS divides an emergency response into five manageable functions essential for emergency response operations: command, operations, planning, logistics, and finance and administration. United States Department of Labor Occupational Safety and Health Administration, “What is an Incident Command System?” accessed July 12, 2013, [https://www.osha.gov/SLTC/etools/ics/what\\_is\\_ics.html](https://www.osha.gov/SLTC/etools/ics/what_is_ics.html).

You've got to look beyond the traditional emergency-response community with regard to who needs information and an understanding of the incident command system. We found we had an awful lot of other organizations participating—people who brought valuable assets, but as the incident was so large, they needed a deeper understanding of where they plugged in.<sup>31</sup>

ICS exists as a subsystem of the National Incident Management System (NIMS).<sup>32</sup> To assist with the organization of convergent/spontaneous volunteers, LAFD training bulletins explain that the first phase of any disaster event is characterized by the emergence of “spontaneous volunteers.” These are loved ones, friends, or co-workers performing light or surface rescue often perform the first rescue efforts.<sup>33</sup> One of the main advantages of using ICS is its ability to expand and contract, depending on the scale of the incident. Another advantage of this system is found in its standardization of response and operational procedures. The structure or framework of ICS allows resources from differing agencies a hierarchy to assist with working together using unified command.<sup>34</sup> The importance of standardization in this realm can also assist in achieving the goal in disaster response of “utilitarianism.”<sup>35</sup> FEMA recently released a new training curriculum specific to CERT, independent study (IS) 315. This three-hour online CERT specific course offers CERT trained volunteers an opportunity to expand their knowledge with regard to ICS.<sup>36</sup>

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<sup>31</sup> Erich J. Arlington, “9/11 Lesson: Get to Know Your Neighbors,” *Emergency Medical Services* 31, no 9 (2002): 87.

<sup>32</sup> Federal Emergency Management Agency, “Incident Command System,” last modified September 5, 2013, <http://www.fema.gov/incident-command-system>.

<sup>33</sup> Los Angeles Fire Department, “The Management of Spontaneous Volunteers and City Volunteer Programs” *Training Bulletin* 071, November 1992, <http://www.lafdtraining.org/ists/tb071vxxxx.pdf>.

<sup>34</sup> United States Department of Labor, “Occupational Safety & Health Administration,” accessed November 14, 2013, <http://www.OSHA.gov>.

<sup>35</sup> Utilitarianism is another way to describe what is referred to as; doing the greatest good for the greatest number of people. This phrase is commonly used in disaster response objectives. Jeremy Bentham, *An Introduction to the Principles of Morals and Legislation* (Kitchener, Ontario: Batoche Books, 2000; printed in 1781), 14.

<sup>36</sup> Federal Emergency Management Agency, “CERT Supplemental Training: The Incident Command System,” accessed August 13, 2013, <http://training.fema.gov/EMIWeb/IS/courseOverview.aspx?code=IS-315>.

CERT training focuses on managing a large-scale incident within a community. The ability of a CERT member to assume command of the neighborhood and assign lifesaving tasks is the ultimate boon following a major event. The primary goal of first responder entities is to gain control of a situation, determine the resources needed, and establish incident objectives.<sup>37</sup> Having this framework established early will assist in saving lives and property. Many factors affect survival rates of trapped victims, and it has been widely known that time is one of those considerations. The “Golden Hour” is a term widely used to describe survival rates and as its name suggests, the initial 60 minutes following the sustainment of a critical injury is a determinant to one’s survival. Whether time is a factor or not, having trained volunteers available to assist in rescue efforts affords the incident commander the ability to use them as part of the solution, not part of the problem. By directing and supervising the efforts of the volunteers, the safety of volunteers can be somewhat controlled.<sup>38</sup>

#### **D. LAFD CERT SUPPORTS DHS MISSION**

Literature from state and local resources references LAFD CERT on the state’s Citizen Corps website:

The earliest and best information on CERT involvement is from the agency that created it, LAFD, in 1987. Both LAFD and CERT-LA maintain websites that have useful historical and descriptive information on what CERT’s are, how they are useful and valuable, and how to start and run a CERT program. After the formation of Department of Homeland Security (DHS), Citizen Corps also became—and remains—a reliable and useful resource on how agencies might utilize trained volunteers; some for the websites maintained by most other National CERT related

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<sup>37</sup> Federal Emergency Management Agency, “IS-100.b. Introduction to Incident Command System,” accessed November 12, 2013, <http://training.fema.gov/EMIWeb/IS/is100blst.asp>.

<sup>38</sup> Los Angeles Fire Department, “The Management of Spontaneous Volunteers.”

organizations and groups, such as Fire Corps,<sup>39</sup> Medical Reserve Corps (MRC),<sup>40</sup> USAonWatch,<sup>41</sup> and Volunteers in Police Service (VIPS).<sup>42</sup>

But as the 9/11 Commission discovered, all of this activity is uncoordinated; there is no formal collaboration between these various volunteer agencies.<sup>43</sup> Each apparently works within its individualized discipline and protocols. The 9/11 Commission Report recommended that agencies seek opportunities to share and cross-train their pool of respective volunteers.<sup>44</sup> Department of Homeland Security online resources confirm that the federal government embraced the CERT concept in 2003 and dedicated millions of dollars to creating new teams and training existing teams.<sup>45</sup> The program has seen tremendous growth, and there are now nearly 2,200 CERT programs nationwide.<sup>46</sup> The Department of Homeland Security released in 2003 *Presidential Directive 8* (HSPD-8) that specifically mentioned citizen participation in the national preparedness effort, and stated:

The Secretary shall work with other appropriate Federal departments and agencies as well as State and local governments and the private sector to

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<sup>39</sup> Fire Corps promotes the use of citizen advocate (volunteers) to support and augment the capacity of resource-constrained fire and emergency service departments at all levels: volunteer, combination, and career. “Citizens Corps,” accessed March 28, 2013, <http://www.citizencorps.gov/partnersandaffiliates/firecorps.shtm>.

<sup>40</sup> The Medical Reserve Corps (MRC) Program coordinates the skills of practicing and retired physicians, nurses and other health professionals as well as other citizens interested in health issues, who are eager to volunteer to address their community’s ongoing public health needs and to help their community during large-scale emergency situations. “Medical Reserve Corps,” accessed March 28, 2013, <http://www.medicalreservecorps.gov/HomePage>.

<sup>41</sup> USAonWatch, “USAonWatch is the Face of the National Neighborhood Watch Program,” accessed March 28, 2013, <http://www.usaonwatch.on!/>.

<sup>42</sup> The VIPS Program provides support and resources for agencies interested in developing or enhancing a volunteer program and for citizens who wish to volunteer their time and skills with a law enforcement agency. “VIPS—Volunteers in Police Service,” accessed March 29, 2013, <http://www.policevolunteers.org/>.

<sup>43</sup> National Commission on Terrorist Attacks upon the United States, *Final Report of the National Commission on Terrorist Attacks upon the United States* (W.W. Norton & Company, Inc.), 396.

<sup>44</sup> Ibid.

<sup>45</sup> Fire Chief, “DHS Helps Train Citizens for Emergencies with \$19 Million for Community Emergency Response Teams,” last modified August 8, 2012, [http://firechief.com/news/firefighting\\_dhs\\_helps\\_train](http://firechief.com/news/firefighting_dhs_helps_train).

<sup>46</sup> Federal Emergency Management Agency, “Start and Maintain a CERT Program,” last modified August 8, 2012, <http://www.fema.gov/start-and-maintain-cert-program>.

encourage active citizen participation and involvement in preparedness efforts. The Secretary shall periodically review and identify the best community practices for integrating private citizen capabilities into local preparedness efforts.<sup>47</sup>

On April 8, 2011, *Presidential Policy Directive 8* (PPD-8)<sup>48</sup> was released. This *National Preparedness Directive* (NPD) replaced HSPD-8 of 2003, and also could impact the CERT program activities. This directive states, in part,

The Secretary of Homeland Security shall coordinate a comprehensive campaign to build and sustain national preparedness, including public outreach and community-based and private-sector programs to enhance national resilience.<sup>49</sup>

Directives and documents described above demonstrate support at the national level for citizen and community based preparedness programs—and local program managers should consider these directives as guidance documents when developing smart practices for their teams.

## **E. THE VALUE OF TRAINED VOLUNTEERS**

The value of trained volunteers has not fully been realized; the terrorist attack during the 2013 Boston Marathon revealed a situation where spontaneous at-location volunteers acted quickly, which resulted in saved lives:

The number of people who climbed over barricades, tore barricades down to allow others to enter, and rendered aid with whatever means available shows us as a city and as a society at our very best--in our moment of need, people spontaneously and immediately helped each other, across cultures and ethnicities and nationalities.<sup>50</sup>

According to the American Heart Association:

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<sup>47</sup> U.S. Department of Homeland Security, *Homeland Security Presidential Directive (HSPD-8): National Preparedness* (Washington, DC: White House, 2003).

<sup>48</sup> U.S. Department of Homeland Security, *Presidential Policy Directive (PPD-8): National Preparedness Directive*, 2011, <http://www.dhs.gov/xlibrary/asst/presidential-policy-directive-8-national-preparedness.pdf>.

<sup>49</sup> Ibid., 14.

<sup>50</sup> Ibid.

In 1990, the American Heart Association developed the Chain of Survival. This protocol addresses the fact that most sudden cardiac arrest (SCA) episodes occur outside of a hospital, with death occurring within minutes of onset. For the Chain to be effective, quick execution of each and every link is critical. With each minute that passes, the likelihood of survival decreases 7–10%.<sup>51</sup>

Table 2 offers a further explanation of how time is directly related to morbidity.

Table 2. Sudden cardiac arrest survival

<b>Time After the Onset of Attack</b>	<b>Survival Chances</b>
With every minute	Chances are reduced by 7–10%
Within 4–6 minutes	Brain damage and permanent death start to occur
After 10 minutes	Few attempts at resuscitation succeed

When effective bystander cardio pulmonary resuscitation (CPR) is provided immediately after sudden cardiac arrest, it can double or triple a victim’s chance of survival, but only 32 percent of cardiac arrest victims get CPR from a bystander.<sup>52</sup> Sadly, fewer than eight percent of people who suffer cardiac arrest outside the hospital survive.<sup>53</sup>

Further research might reveal a correlation among the political, psychological, economic, environmental, social, organizational, and community similarities in those citizens who spontaneously volunteer. Analysis of this data might assist in the

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<sup>51</sup> “Timing is Everything-Chain of Survival,” accessed August 12, 2013, [http://www.chainofsurvival.com/cos/Timing\\_detail.asp](http://www.chainofsurvival.com/cos/Timing_detail.asp).

<sup>52</sup> “CPR Statistics,” accessed August 12, 2013, [http://www.heart.org/HEARTORG/CPRAndECC/WhatIsCPR/CPRFactsandStats/CPR-Statistics\\_UCM\\_307542\\_Article.jsp](http://www.heart.org/HEARTORG/CPRAndECC/WhatIsCPR/CPRFactsandStats/CPR-Statistics_UCM_307542_Article.jsp).

<sup>53</sup> Ibid.

recruitment and coordination of a more productive cadre of trained volunteers, who can serve as examples to other volunteers and help increase the number of these resources.

A 2009 report from the Government Office of Accountability documented testimony related to the effectiveness of disaster volunteer programs.<sup>54</sup> The report documents the opinion that one of the National Preparedness Directorate's (NPD) objectives for the Community Preparedness Division is to, "increase the number of functions that CERTs will be able to perform effectively during emergency response, but the plan does not describe how many and what type of functions CERTs currently perform, and additional functions they could perform."<sup>55</sup> In 2010, Citizen Corps created the Disaster Volunteer Network (DVN) to provide a framework for "typing" trained volunteers. A similar system is used for the FEMA Urban Search and Rescue Task Force teams who, on a rotational basis, respond to acts of terrorism and large scale disasters when local resources become overwhelmed.

## **F. SUMMARY OF LITERATURE REVIEW**

In summary, the literature review included articles, reports, and program analytics from federal, state, and local public and private sector publications on the importance of trained volunteers. The literature revealed a large body of evidence relating to convergent volunteers; however, it leaves many questions with regard to trained volunteers.

Tens of thousands of volunteers have responded in past disasters and, as mentioned, they fit into one of six categories.<sup>56</sup> These convergent, spontaneous, and/or unaffiliated volunteers can be registered and made available for agencies in time of need. What is not known is the number of CERT trained volunteers that are part of this response. In addition we need to know is how CERT trained volunteers can be tracked

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<sup>54</sup> *Testimony before the Subcommittee on Emergency Communications, Preparedness, and Response, Committee on Homeland Security, U.S. House of Representatives Preliminary Observations on FEMA's Community Preparedness Programs Related to the National Preparedness System, United States Government Accountability Office, 111th Cong., 17 (2009) (testimony of William O. Jenkins, Jr.),* <http://www.gao.gov/new.items/d10105t.pdf>.

<sup>55</sup> Ibid.

<sup>56</sup> Orloff, *Managing Spontaneous Community Volunteers*.



during disasters when they are exercising the skills acquired through CERT training. Because the frequency of disasters cannot be controlled, statistics from past disasters affecting the Los Angeles area where CERT trained volunteers were deployed can offer some insight to the question. This information demonstrates the advantages that trained volunteers bring to the agencies that use them. Examining the number of volunteer hours in these events provides realistic value of cost savings. Other attributes of these volunteers in relation to whole community help describe the benefit of a CERT volunteer and support LAFD's model by illustrating the variety of ways they are utilized by the LAFD. Ultimately, the LAFD emergency manager and fire chief would like to see the current 60,000 trained increase to 400,000 or 10 percent of the population in Los Angeles.<sup>57</sup>

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<sup>57</sup> Brian Cummings (Fire Chief Los Angeles Fire Department), telephone conversation August 12, 2013.

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### III. HISTORY OF CERT

Each of us as human beings has a responsibility to reach out to help our brothers and sisters affected by disasters. One day it may be us or our loved ones needing someone to reach out and help.

Michael W. Hawkins, American Red Cross

The original idea for the Community Emergency Response Training (CERT) Program was borne from disasters like the Mexico City Earthquake of 1985. At the moment of that event, Mexico City had no response-training program for its citizens. However, large groups of volunteers organized themselves and performed light search and rescue operations, which refers to the rescue of injured, but not trapped, or the rescue from lightly damaged structures where entrapment is caused by non-structural or building contents. In addition, volunteer were credited with more than 800 successful rescues; unfortunately, in the aftermath of that disaster, more than 100 of these untrained volunteers died across the 15-day rescue operation.<sup>58</sup> Subsequent investigation pointed to a widespread lack of rescuer knowledge and training. According to a National Voluntary Organizations Active in Disasters (NVOAD) publication titled *Managing Spontaneous Volunteers in Times of Disaster*,<sup>59</sup> this was an example of the altruistic, convergent behavior of spontaneous volunteers who so commonly appear after large disasters, but often exceed their own skills or knowledge, and end up as victims themselves, or exacerbate a dangerous situation.

The idea behind the LAFD CERT was to construct a program that might save lives in future catastrophic events by utilizing trained volunteers to perform the large volume of tasks needed in emergencies and disasters, which would allow professional first responders to focus on more highly technical tasks. To date, this program has spread

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<sup>58</sup> Donald C. Cooper. *Fundamentals of Search and Rescue* (Sudbury, MA: Jones and Bartlett, 2005), 5.

<sup>59</sup> National VOAD Volunteer Management Committee, *Managing Spontaneous Volunteers in Times of Disaster: The Synergy of Structure and Good Intentions*, accessed August 12, 2013, <http://www.fema.gov/pdf/donations/ManagingSpontaneousVolunteers.pdf>.

outside the continental United States (OCONUS) and to seven foreign countries. The success of this program can be attributed to citizens' concern with preparedness, the value of self-sufficient communities that are an effective component of the response system, and the recognition that citizens must be trained in basic lifesaving and property protection skills. The lessons learned in Mexico City strongly indicated a need for a plan to train volunteers to help themselves and others as part of an adjunct to government response as. This was seen as an essential part of overall preparedness, survival, and recovery.

The LAFD first developed a pilot program to train a neighborhood watch group associated with the Los Angeles Police Department. A concept developed involving multi-functional, volunteer response teams with basic fire suppression, light search and rescue, and first aid skills. The design and development can be credited to Assistant Chief (ret.) Frank Borden, who implemented the training and activation of the first team in 1986. The team consisted of 30 community members who completed training, showing that the concept was viable through various drills, demonstrations, and exercises. The early performance of that first team clearly demonstrated the following:

- People want to volunteer to help
- Volunteers can be trained to help with response

There is potential for disasters everywhere. Although classified as “moderate,” the Whittier Narrows earthquake of October 1987 left more than 100 injured and six dead.<sup>60</sup> It prompted the Los Angeles (LA) city administration to find a funding source to maintain an active disaster-trained and educated community. Not only was the CERT program fully funded and implemented in Los Angeles, as a testament to its perceived value, the LAFD was given the responsibility to activate a Disaster Preparedness Division staffed with 32 volunteers whose responsibilities included functions needed to prepare a community, city agencies, and departments for disaster. Within one month of

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<sup>60</sup> Judith Cummings, “6 Die as Severe Earthquake Hits Los Angeles Area,” *New York Times*, October 02, 1987, <http://www.nytimes.com/1987/10/02/us/6-die-as-severe-earthquake-hits-los-angeles-area.html>.

that earthquake, the division was active and devoted to community and government preparedness.

The response to 1994 Northridge Earthquake (magnitude 6.7) was the first event that demonstrated the effectiveness of the CERT program. Following the Northridge earthquake, the disaster preparedness unit sent out a survey to citizens who had attended CERT training prior to the event. The survey questions were constructed to gather information with regard to trained volunteers having assisted with utility control, light search and rescue, and medical attention. The results of this survey provided the data needed to evaluate the usefulness of this training and was the impetus for new programs throughout the country being implemented to meet local needs and disasters common to other areas. The results of this survey are available on-line and offer a diverse list of tasks that CERT members have performed throughout the country.<sup>61</sup>

This was the case in 1995 when Kobe, Japan was hit by another devastating quake. During this earthquake, representatives from Los Angeles were attending a conference to discuss lessons learned from the 1994 Northridge quake. Witnessing the community response in Japan during this event helped reinforce the need for a countrywide program like the LAFD CERT Program to cope with the effects of a large earthquake or area-wide disaster. According to the Asia Foundation, “Volunteers, community groups, and NGO’s filled gaps as first responders during the initial absence of government-provided relief—this resulted in Japan recognizing the value of community based organizations and volunteerism.”<sup>62</sup> As a result, CERT teams were sent to assist in Japan’s disaster preparedness for the future.

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<sup>61</sup> Los Angeles CERT, “How Have You Used Your CERT Volunteers?” accessed February 27, 2014, [www.cert-la.com/how-used-cert.htm](http://www.cert-la.com/how-used-cert.htm).

<sup>62</sup> Allen Choate, “In Face of Disaster, Japanese Citizens and Government Pull from Lessons Learned,” *In Asia*, March 16, 2013, <http://asiafoundation.org/in-asia/2011/03/16/in-face-of-disaster-japanese-citizens-and-government-pull-from-lessons-learned/>.

The tragic events on September 11, 2001 caused a major growth in the community resilience movement. Awareness campaigns like Citizen Corps<sup>63</sup> and Ready.gov<sup>64</sup> continue working to actively engage Americans in the preparedness efforts necessary for making families, neighbors, and communities better prepared and more resilient. Today, the CERT program is fulfilling that mission through education, training, and providing volunteers opportunities within the disaster preparedness arena.<sup>65</sup> Although other programs exist for volunteer involvement, the CERT program focuses on a specific curriculum that volunteers must complete to become a team member in their communities.

As stated earlier in this research, CERT originally targeted neighborhood groups to participate in disaster preparedness training. In a California State CERT Conference held in March of 2013, California Secretary of Service and Volunteering Karen Baker estimated that there are 250,000 CERT-trained volunteers in California, and that LAFD is responsible for 25 percent of that total, or approximately 60,000.<sup>66</sup>

As we have repeatedly witnessed, the first phase of any disaster event is characterized by the emergency response and direct involvement of “spontaneous volunteers.” Loved ones, friends, or co-workers performing light or surface rescue often are the first rescue efforts. The uninjured/non-life threatening injured survivors utilizing simple hand tools and intuitive knowledge can and do accomplish rescues in this category. There are many factors affecting the survival rate of trapped victims, but time is the primary consideration. The effective use of both trained and untrained volunteers

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<sup>63</sup> Citizen Corps was established to harness the power of every individual through education, training, and volunteer service. U.S. Department of Homeland Security, “Citizen Corps,” accessed July 14, 2013, <http://www.dhs.gov/citizen-corps>.

<sup>64</sup> Ready.gov is national public service announcement campaign designed to educate and empower Americans to prepare for and respond to emergencies including natural and man-made disasters. “About the Ready Campaign,” last modified April 30, 2013, <http://www.ready.gov/about-us>.

<sup>65</sup> CERT training materials are available in English and Spanish and provide the framework for course delivery. Federal Emergency Management Agency, “CERT Training Materials,” accessed July 14, 2013, <http://www.fema.gov/community-emergency-response-teams/training-materials>.

<sup>66</sup> Los Angeles Fire Department, “Disaster Preparedness Section,” CERT Unit database information [internal database].

shortens the time for initial rescues and positively impacts the effectiveness of rescue operations. As Wells (1999) stated:

Depending on the magnitude of the disaster, our capability to respond effectively could be several hours or even days. Hurricane Opal overwhelmed our department initially for 48-hours, and delayed us partially because of trees blocking the roadways. These trees delayed response and had to be removed by our department and other city crews. Initial support from citizens could have provided first aid, fire control, hazard identification, etc., and would have been helpful assistance prior to our arrival in this type of situation.<sup>67</sup>

The purpose of the CERT Program is to improve community self-sufficiency and, therefore, survival in the event of a disaster or catastrophic event. History has shown that emergency service resources will be depleted, thereby requiring some individuals and neighborhoods to be on their own during the first 24 to 72 hours. Although this timeframe is still communicated through most messages given to the public, Americans should consider a more realistic time frame of two weeks when formulating a disaster plan. The act of being prepared and ready applies not only to individuals but also to communities and businesses.

The national CERT curriculum provides consistency and continuity of the knowledge and skills presented in training. All participants in CERT are exposed to the same information. Where the original curriculum developed by the LAFD was initially concerned with earthquake preparedness, FEMA adopted the CERT curriculum and expanded it to be applicable to all hazards in 1993.<sup>68</sup> The greatest differences in CERT from state to state are in the types of disasters most prevalent to the area. FEMA recognized this fact and as such, the inclusion of annexes occurred in the 2011 CERT curriculum update.

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<sup>67</sup> Gary Wells, "Community Emergency Response Team (CERT): A Realistic Approach toward Risk Management" (Paper no. 30697, National Fire Academy, Emmitsburg, MD, 1999), 2.

<sup>68</sup> Federal Emergency Management Agency, "About Community Emergency Response Team," accessed July 14, 2013, <http://www.fema.gov/community-emergency-response-teams/about-community-emergency-response-team>.

The interest in CERT training has triggered the development of two new and needed CERT-related programs under FEMA. In 1993, FEMA was responsible for the national availability of CERT training. Since then, communities in 28 states and Puerto Rico have conducted CERT training.<sup>69</sup> Not all CERT programs are under the direction of firefighters or law enforcement and, as such, smaller communities rely on community members to deliver the training. Communities interested in implementing a CERT program needed assistance with the structure of the program. To facilitate this action, FEMA developed the Train-the-Trainer (TTT-T3) and Program Manager (PM-T4) objectives to prepare attendees with the necessary information to promote this training in their community, conduct TTTs at their location, conduct training sessions for neighborhood, business, industry and government groups and organize teams with which first responders can interact with following a major disaster.<sup>70</sup>

It is not just adults who can volunteer. For example, Eastern Michigan University secured grant funding to pilot a Teen CERT Program, which was aimed at high school students. Its focus is similar to CERT—originally aimed at adults. “The TEEN CERT curriculum also serves to reinforce cognitive, affective, and psychomotor skill sets. For example: fire safety deals with chemistry principles; search and rescue operations demonstrate physics concepts; disaster preparedness discusses psychology principles, and terrorism deals with cultural diversity issues.”<sup>71</sup>

CERT has become an accepted practice in preparedness and offers a convincing foundational framework in building community resiliency. In addition, CERT programs offer an enormous increase in the capability on our war on terrorism. For example, CERT volunteers are being used to assist the government in managing large public events such as marathon races, parades, and festivals and assist with large-scale government exercises as participants and/or support personnel. As our country faces a growing number of

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<sup>69</sup> Ibid.

<sup>70</sup> Ibid.

<sup>71</sup> Office of the Attorney General Department of Law and Public Safety, New Jersey Office of Emergency Management, “What is TEEN CERT?” accessed May 25, 2013, <http://www.state.nj.us/njoem/citizen/teencert.html>.



disasters both natural and manmade, our government capability to respond at the local, state, and federal level is stretched beyond its limits. The need for individuals to provide rescue services to family and neighbors immediately following natural and man-made disasters, has been seen in the aftermath of disasters such as the Northridge Earthquake, Hurricane Katrina, and Hurricane Sandy. The growing number of trained volunteers will become a major component to our response capabilities. The motto, “Let’s Roll” (from the heroes aboard Flight 93 on September 11) signifies the willingness of ordinary people in extraordinary circumstances to respond to save others and clearly points to the need for self-sufficiency and readiness to respond at any given moment. According to *Presidential Policy Directive 8*, “Our national preparedness is the shared responsibility of all levels of government, the private and nonprofit sectors, and individual citizens.”<sup>72</sup>

In summary, the federal government as well as state and local entities have embraced community preparedness, as evidenced by the international presence of CERT. We still do not know what percentage of the population is actually prepared, let alone trained, and we may never know. Asking people to prepare for self-sufficiency seems viable in theory but it is difficult to measure.

Even so, developing a method where communities can work together in familiar groups and/or neighborhood centric programs could enhance the necessary outreach for greater inclusion in CERT teams throughout a city the size of Los Angeles. A better approach might be to train individual communities and formulate teams within them. Henning (1997) stated, “The challenge of managing volunteers today is to find a way to bring order out of chaos, and sense out of nonsense.”<sup>73</sup> Utilizing public service announcements (PSA) given by local government organizations like fire and law agencies, might add credibility and a sense of urgency to preparedness efforts. When tailored to meet the needs of specific communities, PSAs can help build trust within those

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<sup>72</sup> U.S. Department of Homeland Security, *Presidential Policy Directive (PPD-8)*.

<sup>73</sup> Cindy R. Metcal, *An Evaluation of Boca Raton Fire Rescue Services Community Emergency Response Team Preparedness* (Boca Raton, FL: Boca Raton Fire Rescue Services, 2003) <http://www.usfa.fema.gov/pdf/efop/efo36453.pdf>.

communities.<sup>74</sup> With the shrinking of current budgets and other constraints being placed on governmental organizations, specifically fire service and law enforcement, citizens who are trained will become more vital to the response and recovery responsibilities within their respected communities. Citizens are truly the first responders following disaster situations and, as such, they would benefit from receiving structured training to facilitate their actions and provide an added layer of protection for themselves and their communities.

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<sup>74</sup> Homeland Security Advisory Council, *Community Resiliency Task Force Recommendations*, 2011, <http://www.dhs.gov/xlibrary/assets/hsac-community-resilience-task-force-recommendations-072011.pdf>.

#### **IV. CASE STUDY, LOS ANGELES FIRE DEPARTMENT COMMUNITY EMERGENCY RESPONSE TRAINING PROGRAM**

Los Angeles is a large metropolitan area housing a diverse population upwards of four million citizens. The LAFD and the Los Angeles Police Department (LAPD) provide emergency services to this population that encompasses approximately 470 square miles. LAFD has been credited with the creation of the community emergency response training (CERT) program. It was selected for this case study due to its size, history, and continued growth to sustain itself while expanding its reach through the construct of developing a volunteer enterprise of trained volunteers who comprise the “Call-Out” team of 211 members. These members have completed an additional 34–77 hours of training (see Figure 1) to assist local first responders.

Command and control of these volunteers is through the structure of the ICS. The case study will discuss organizational and political support, how LAFD delivers its CERT program using full-time sworn members, technology innovations including apps, the volume of citizens trained who become active CERT members, and the communication component of LAFD CERT.

With a combined workforce of approximately 13000 law enforcement officers and firefighters, these two agencies could produce impressive results if they connected their training efforts. Leaning heavily on LAFD CERT, law and fire agencies in Los Angeles should collaborate on a common mission to increase the number of trained citizens throughout the city.

Due to a lack of exposure, first responders do not possess a foundational understanding of the value of our trained CERT volunteers within the LAFD. With 106 fire stations and approximately 3200 uniformed personnel who comprise the LAFD, the lack of knowledge and understanding of the CERT program and its mission is often influenced by leadership in those fire stations. By slowly involving CERT trained volunteers into the culture, LAFD might gain a deeper understanding and acceptance of the volunteers’ intentions and worth. Volunteers simply seek recognition and thanks for

the hours they freely give to assist first responders and in making a difference in their communities.

The importance of the areas selected for this study represent the greatest growth of this 27-year program, and how it has benefitted the citizens of Los Angeles and the LAFD. Due to its stature within the CERT arena, this case study will provide a foundational understanding and document that others can reference to assist them in building a similar program.

#### **A. FULL-TIME DEDICATED STAFF**

One of the distinct differences of the LAFD CERT program is its staffing of full-time dedicated firefighter/instructors assigned to a specialty unit. These members work a 10- hour day versus the normal 24-hour platoon duty schedule of a firefighter. This schedule affords availability of more CERT classes due to the instructors not having to respond to 911 calls.<sup>75</sup> The initial cadre of CERT instructors were firefighters/paramedics either not able to work platoon duty due to short-term injury rehabilitation or a few who were considered “Reasonable Accommodation” (RA) meaning they would never be able to work what is described as “full-duty.”<sup>76</sup> According to civil service rules, for members who are unable to perform duties of a position due to medical reasons, the Los Angeles personnel department must attempt to assign a member to a position that accommodates those limitations.<sup>77</sup> The decision to utilize full-time staff for CERT delivery came shortly after the 1994 Northridge earthquake. Community groups, including homeowners associations (HOAs), neighborhood councils, and local businesses, found themselves on a six-month waiting list. In response to the demand for classes, the CERT unit requested eight full-time firefighter positions. Unlike other CERT programs, LAFD CERT travels to scheduled classes. The mobility of instructors provides a higher level of customer

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<sup>75</sup> CERT Los Angeles, “CERT Class Schedule for Los Angeles,” accessed February 13, 2013, <http://www.cert-la.com/calendar/calendar.cgi?month=1&calendar=basic&year=2013&month=11>.

<sup>76</sup> Full-duty status is a term often used in the fire service to describe the physical capabilities of a sworn member. As per job descriptions, these members are able to perform all expected and prescribed duties of a firefighter working platoon duty.

<sup>77</sup> Los Angeles City Personnel Department, *Rules of the Board of Civil Service Commissioners*, August 2012, <http://per.lacity.org/pdf/csvcrules.pdf>, 59.

service due to the ease of attending training closer to work or home. This structure affords availability of classes throughout the week while most other programs typically offer courses on a quarterly basis.<sup>78</sup>

The advantage of a single unit responsible for the delivery of CERT is that it allows year round training opportunities to the citizens. Working within a framework that is structured and tasked with providing training, the LAFD CERT unit has been successful in maintaining a full calendar. Classes are offered five days a week with weekends typically reserved for community events. With support staff assigned, the current structure of LAFD CERT is capable of scheduling approximately 14 locations each week and 70, seven-week deliveries each calendar year. This robust schedule yields approximately 4,000 trained citizens annually. One of the unique attributes to the LAFD model is in its train-and-maintain approach to CERT. Not all graduates desire continued involvement with CERT outside of their neighborhoods and/or communities. For those who do, trained volunteers are given opportunities to assist the fire department in non-emergency functions, such as providing hydration during high heat days and fire patrol during “red flag”<sup>79</sup> conditions.

Using professional first responders adds credibility to information given in the course curriculum due to the responders’ ability of presenting real-life examples to course content. Uniformed personnel also bring a sense of realism and accuracy to facts. Not all agencies that deliver CERT training are organizationally designed with fulltime CERT staff. In order to provide more training, two agencies might collaborate. This has been a

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<sup>78</sup> Sacramento Metropolitan Fire District offers CERT training quarterly. The course is delivered over two weeks: two Thursdays and two Saturdays culminating in 24 hours of training. All CERT trained members who wish to be considered for activation, must complete a live-scan background check.

<sup>79</sup> Red flag conditions are posted when the national weather service releases information pertaining to relative heat and humidity for any given day. In the city of Los Angeles, Red Flag warnings are issued to assist in increasing public safety within the Very High Fire Hazard Severity Zones. This information assists the Department of Transportation (DOT) with removal of vehicles illegally parked in these posted areas. Los Angeles Fire Department, “Local Red Flag and Neighborhood Parking Restriction Status,” accessed September 11, 2103, <http://lafd.org/redflag/>.

regular practice between the Los Angeles Sheriff's Department (LASD) and Los Angeles County Fire Department (LACoFD).<sup>80</sup>

Other perceived advantages of full-time staffing are the consistency and continuity of the information and how it is delivered. Creating an environment that is conducive to learning builds trust and creates a comfortable learning environment. Because the CERT curriculum contains information directly related to first responder activities, professional first responders are able to present the material and bridge that information with real-life examples. The knowledge, skills, and abilities of professional firefighters are obtained through rigorous training, practice, and real life events. The core of a firefighter's career is based on safety and situational awareness. These same values are delivered through the course content and seem to have a positive effect on students. A firefighter's passion is not only related to extinguishing fires but equally in leaving people with good impressions and solutions to their problems. The badge that is proudly displayed on the firefighter's uniform also helps to create a favorable environment to learning. Most citizens understand the job of a firefighter and know they place their own lives in the hands of others on a daily basis. With this level of understanding and acceptance, the professional firefighter/instructor is able to reflect a level of comfort when trying to teach lifesaving techniques to those enrolled in a CERT course. Firefighters understand that training is vital to their wellbeing and that this same level of training is equally as valuable to the lives of the citizens they serve and teach.

#### **B. PAID SUBJECT-MATTER EXPERT VERSUS VOLUNTEER INSTRUCTORS**

Differentiating between paid (sworn) instructors and volunteer instructors may not be as easy as it seems. The example that illustrates this involves a nonprofit organization MySafe: LA, which began supporting the LAFD during field drills, exercises, and incidents with video and photography in 2003. In 2009, this same organization began working directly with LAFD as a unit of the Safe Community Project.

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<sup>80</sup> Los Angeles Sheriff's Department, "Community Emergency Response Team Training," accessed November 11, 2013, [http://www.lasdhq.org/lasd\\_services/cert.html](http://www.lasdhq.org/lasd_services/cert.html).

Areas of its direct involvement included teaching children, families, and older adults how to stay safe in emergencies and disasters within Los Angeles.<sup>81</sup> Teaming up with fire resources, these volunteer members wear the LAFD uniform without the badge.

The uniform itself signifies a perceived level of training and expertise. To a group of citizens, these volunteers look like firefighters. This caused great concern within the rank and file and, specifically, to the CERT instructors. Not only was there a sense of a “turf war,” a question that arose frequently was, “why are they allowed to wear our uniform and pretend they are one of us?”<sup>82</sup> Although MySafe:LA was not teaching the CERT curriculum, its presence caused doubt in the CERT unit as to whether MySafe:LA would eventually take over and save the department a significant amount of money, which would then not have to pay firefighters to instruct volunteers.

There are many CERT programs through the country that utilize volunteer instructors rather than uniformed personnel to deliver CERT. Although LAFD CERT has considered the use of volunteer instructors, it remains committed to its delivery by paid uniformed personnel. The decision to maintain uniformed instructors was primarily a result of past practice and the presence of a specific CERT unit. Members assigned to this unit possess a passion and sense of ownership with regard to the level of experience and knowledge they are able to impart on students of CERT. Much of this passion grows throughout the course of a firefighters’ involvement with CERT. Many of the instructors spend years assigned to this unit and that longevity imparts a sense of ownership with regard to the level of expertise and knowledge associated with the program. This does not mean that volunteers are not qualified to instruct CERT, but it is the internal perception of the LAFD CERT administration that volunteers may not be able to answer what is often referred to as, the second “what if” question.

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<sup>81</sup> MySafe:LA is non-profit, 501C-3 organization that works within the LAFD organization providing awareness training to elementary schools, senior living, and family organizations. Its members often include off-duty firefighters.

<sup>82</sup> Los Angeles CERT Unit Command conducts regular weekly staff meetings. During these meetings, discussions take place regarding not only the CERT unit scheduling but also often the scheduling of MySafe:LA presentations throughout the city.

An argument can be made that using volunteers to deliver CERT within Los Angeles City boundaries might result in an increased availability of classes as well as bilingual deliveries. The current LAFD cadre does not maintain a bilingual instructor. There is a need for bilingual instructors, but until there is a minimum requirement or desired level of deliveries to specific demographics mandated, there is no guarantee this will occur.<sup>83</sup> Before volunteers would be considered within the framework and structure of LAFD CERT, a vetting process would need to be instituted that would certify a volunteer to teach CERT. Because the LAFD is represented by a strong union, this consideration to the change in delivery also raises questions and concerns with regard to labor issues. The current requirements for the CERT instructor position are clearly defined in its position description. Because the CERT instructor position is considered an administrative position (non-emergency), versus platoon duty (emergency) 24-hour schedule, these positions are often filled with firefighters who qualify as “reasonable accommodation” (RA) members. The RA restrictions vary but typically fall within the position description job duties. As a result, there are internal concerns regarding the filling of those positions. One of the realized disadvantages to this process is in receiving a member who is not interested in teaching and/or delivering the CERT curriculum. This position is unique because most instructors spend an average of five to 10 years assigned to the unit. Depending on the continued growth of the program and its contribution to whole community preparedness, volunteers might offer a new level of engagement and fresh approach to the value of CERT.

The typical volunteer, who becomes involved in CERT and other programs like it, has an innate desire to make a difference. According to the Federal Agency for Service and Volunteering, 25 percent of California residents volunteer or are engaged in civic activities while 58.7 percent do favors for their neighbors.<sup>84</sup> Volunteers of LAFD CERT

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<sup>83</sup> According to the *Los Angeles Almanac*, 48.48 percent of the city of Los Angeles’ population is Hispanic. The need for additional bilingual courses is needed to reach this vast demographic group. *Los Angeles Almanac*, “Racial/Ethnic Composition of Cities by Percentages Los Angeles County 2010 Census,” accessed November 11, 2013, <http://www.laalmanac.com/population/po38.htm>.

<sup>84</sup> Federal Agency for Service and Volunteering, “Volunteering and Civic Engagement in California,” accessed November 11, 2013, <http://www.volunteeringinamerica.gov/CA>.



have been involved anywhere from a few months to several years. Being associated with the LAFD carries a certain attraction that volunteers like. This raises other concerns, including the question of background investigations. While all firefighters have completed and passed background investigations as part of the hiring procedure, volunteers who are actively engaged in activities directly related to the LAFD should also be cleared of any felonies and other sensitive concerns.

As with all large fire and law organizations, liability remains at the forefront when considering the use of volunteers within an organizations structure. For the time, the LAFD CERT program continues being administered and delivered by uniform personnel but consideration is being given to use volunteer trainers. The popularity of CERT is such that careful monitoring and control should be maintained with consideration to the thousands of citizens trained in the Los Angeles. Tables 3 and 4 offer some of the advantages and disadvantages of utilizing professional firefighters versus CERT trained volunteers as instructors.

The primary function of volunteers, even CERT trained volunteers, is to support first responders in the field following a disaster, with a focus on survival. It is essential that first responders train community volunteers to understand how to function productively, as a trained volunteer, in support of incident command and practice key elements that will make a difference in real time response. The overriding difference is that professionals are trained extensively and daily to respond, provide the organization and leadership necessary to command survival and relief situations. In addition, they have the experience necessary to separate resolution from emotion and to save lives. CERT trained volunteers can be trained as CERT instructors, but they cannot bring the bottom line professional essence of a first responder to volunteers wanting to be CERT trainers. That noted, CERT graduates can definitely support the CERT training process and set an example for the importance of understanding what first responders will be doing and what CERT trained volunteers can do to support those professionals trainers.

Table 3. Professional first responders as CERT Trainers

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• Have first-response experience</li> <li>• May have training experience</li> <li>• Makes quality control easier</li> <li>• Reliable</li> <li>• Set work schedules</li> <li>• Credibility</li> <li>• Able to answer follow-up questions</li> <li>• Can develop a relationship between participants and department</li> <li>• Covered under workers compensation in case of injury</li> </ul>	<ul style="list-style-type: none"> <li>• May not have training experience</li> <li>• Cost more than CERT volunteer</li> </ul>

Table 4. CERT trained volunteers as instructors

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• Familiar with CERT operations</li> <li>• May have training experience</li> <li>• Cost less than professional responders</li> </ul>	<ul style="list-style-type: none"> <li>• Must fit CERT around work responsibilities</li> <li>• May not have the level of expertise as first-responder</li> <li>• May cause issues with professional responders who feel that CERT graduates are taking their jobs</li> <li>• Have trouble on “what-if” questions due to their lack of knowledge and experience</li> <li>• Not covered under workers compensation if they are injured</li> <li>• May back out of teaching a class do to other commitment</li> </ul>

## C. ADMINISTRATION

LAFD CERT trains approximately 4,000 citizens annually; the expansion of CERT is a direct result of its contribution to the citizens and stakeholders of Los Angeles. Past budgetary cuts and economic concerns have brought attention to the CERT unit in the recent past. The LAFD and LAPD are the top two lines items on the city's budget. In 2011, the fire department was directed to close units in an attempt to save money,<sup>85</sup> and the CERT unit was one of the few targets. The CERT unit immediately sent out a mass email to the 2600 email addresses within its database. As citizens and stakeholders became aware of the potential cut, city officials received a high volume of phone calls, emails, and faxes from their constituents with regard to the potential loss of CERT. The city's high-ranking officials realized the constituency's concern and rescinded the fire departments attempt. The program experienced that same situation the following two years.

As the CERT training continued, the number of trained volunteers grew and the realized value became more apparent as CERT's presence was seen in several events. To better coordinate activities, a volunteer coordinator position was established within the mayor's office to monitor and track volunteer programs within the city.<sup>86</sup> This recent position has been instrumental in exposing actual volunteer hour figures to top ranking officials within Los Angeles. Due to this position being implemented, tracking of volunteer hours are logged more efficiently. CERT is currently averaging 4500 hours annually, which equates to a monetary savings of approximately \$99,000.<sup>87</sup> Moreover, the importance of CERT was recently recognized by city council through public safety measures. Geographic teams were constructed to focus on business and economic

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<sup>85</sup> The CERT unit resides under the Emergency Services Bureau of the LAFD. All bureaus are under the command of a deputy chief who is tasked with managing all aspects of that bureau including budget. In an attempt to comply with the direction they were given, the CERT unit became what was considered an easy target.

<sup>86</sup> City of Los Angeles Personnel Department, "Job Descriptions," accessed November 11, 2013, <http://agency.governmentjobs.com/lacity/default.cfm?action=viewclasspec&classSpecID=741614>.

<sup>87</sup> Hands on Network, "Calculating the Economic Impact of Volunteers," accessed September 11, 2013, <http://www.handsonnetwork.org/tools/volunteercalculator>.

development as well as emergency preparedness. These Community Action Teams (CAT) are tasked with assisting other residents and stakeholders with engagement in local government.<sup>88</sup>

#### **D. PROCESS AND PRACTICES OF CERT VOLUNTEERS**

LAFD CERT has flourished because of city-level familiarity and support, even when it lacked internal LAFD support. It has also enjoyed the strong support of trained volunteers who continue to stay engaged in the CERT program and promote its value to other citizens.

Trained volunteers who have completed the basic 20-hour CERT course, submitted a volunteer registration form, have attended a minimum of two quarterly trainings annually, registered as disaster service workers (DSW), and are qualified to participate in the call-out system. The volunteers receive an identification card from the program manager (these are not “fire line” passes).<sup>89</sup> All trained volunteers are contacted via their choice of email, cell phone, pager, or fax when activation has been initiated and their assistance is requested. No volunteer is allowed to self-dispatch to any incident. By restricting these volunteers from self-dispatching, the incident commander will not have the added responsibility of their unexpected arrival at the scene of a disaster. All trained volunteer’s responding to an official call-out is required to have their personal protective equipment (PPEs), which consists of a green helmet, green vest, and appropriate clothing as listed in the *CERT Coordinator Guidebook*<sup>90</sup> (CCG).

##### **1. Volunteer Division Coordinator**

Volunteer division coordinator (VDCs) are CERT volunteers nominated by their peers and provide the necessary conduit between volunteers and the program manager.

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<sup>88</sup> Bob Blumenfield, Bob Blumenfield’s Community Action Teams,” *Bob C.A.T.s* (blog), “May 9, 2011, <http://sfvbobcats.wordpress.com>.

<sup>89</sup> A fireline pass is granted to individuals who have submitted an application and passed a live scan background investigation.

<sup>90</sup> Los Angeles Fire Department, *LAFD CERT Coordinator Guidebook*, 2010, <http://www.cert-la.com/CERT-Coordinator-Guide.pdf>.

The VDC is typically a volunteer who has proven him/herself within the communities they live as well as among the CERT community. The VDC position was established in 2008 to create a better “manageable span of control” as outlined in the Incident Command System (ICS).<sup>91</sup> The LAFD CERT VDC position is a necessary component in fulfilling that mission. Prior to its inception, the CERT program manager was the key point of contact (POC) for hundreds of trained volunteers active in the fire departments call-out cadre. With VDCs in place, the program manager can concentrate on other aspects of the program.

The CERT program trains citizens with the vision of incorporating them into a formalized group better able to organize subordinate volunteers. Prior to the implementation of the VDC position, the 215 trained volunteers would converge upon the program manager with questions and concerns regarding their duties and responsibilities. The time needed to address these concerns can be overwhelming and counterproductive for a single manager. VDCs provide the necessary layer between the program manager/volunteer coordinator and the incident commander at the scene of a disaster or emergency incident.

To assist with increasing a community’s resilience, the VDC has latitude to collaborate with a corresponding LAFD battalion chief (BC).<sup>92</sup> Fire departments typically work a schedule that is framed around three platoons. One of the recognized difficulties for these VDCs is in building a rapport with the BC partly due to the flexibility of the Kelly schedule.<sup>93</sup> Within the fire department culture, the rotation of personnel occurs

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<sup>91</sup> The United States Federal Highway Administration defines ICS as, “a systematic tool used for the command, control, and coordination of emergency response.” Office of Emergency Services Riverside, CA, “Firefighting Resources of California Organized for Potential Emergencies,” Firescope, 1994, [www.firescope.org/doc-order-list.pdf](http://www.firescope.org/doc-order-list.pdf), 2.

<sup>92</sup> A battalion consists of five to seven fire stations within a specific geographic area. Each battalion chief (BC) maintains oversight of those stations and is responsible for the actions of those stations and its personnel.

<sup>93</sup> For purposes of this thesis, a “platoon” is defined as one of three shifts that currently frame the work schedule of LAFD field personnel. The three shifts are defined as “A,” “B,” and “C.” Each shift is color-coded as in the LAFD calendar. This schedule is referred to as the “Kelly” schedule. United Firefighters of Los Angeles City Local 112, “The 48/96 Work Schedule,” July 2007, <http://www.uflac.org/files/UFLAC%2048-96%20Color%20Primo%20v1.3.pdf>.

frequently. These changes in personnel can have a negative impact on the VDCs' ability to establish good working relationships with the BC. This often causes frustration and angst for the volunteer. The volunteer often feels as though they are starting over to gain the trust of these sworn members. Effectiveness through the establishment of boundaries and better understanding of civil servants<sup>94</sup> might provide clarity. Kendra and Wachtendorf point out that governmental agencies have well-defined hierarchies, recognized officers and chains of command, and well-known missions, skills, and capabilities.<sup>95</sup> These are areas that require time, patience and inclusivity for volunteers within this framework.

## **2. Volunteer Battalion Coordinators**

A volunteer battalion coordinator (VBC) is subordinate to a VDC. The VBCs are selected individuals who, without compensation or expectation of compensation beyond reimbursement, perform tasks and manage responsibilities at the direction of and on behalf of the CERT unit. A VBC must be officially accepted and enrolled by the CERT program manager prior to performance of the tasks and responsibilities of the position. These selected trained volunteers are identified through their commitment and dedication to the CERT program and their communities.

VBCs serve a one-year appointment during which time their responsibilities include serving as a local contact for basic CERT graduates within their specific battalion. In addition, VBCs are proactive in scheduling meetings and guest speakers to enhance the resident knowledge in CERT. These coordinators are self-motivating and focused on bridging gaps between community-trained volunteers and other city resources, namely, the LAFD. The current structure of the VBC coverage maintains a minimum of two trained volunteers who work in unison to promote the need for

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<sup>94</sup> Civil servants are often defined by either a group of individuals employed based on their professional merits as determined by competitive examinations or a body of employees in government agency; something other than the military. *Wikipedia*, s.v. "civil servant," accessed July 19, 2013 [http://en.wikipedia.org/wiki/Civil\\_service](http://en.wikipedia.org/wiki/Civil_service).

<sup>95</sup> James M. Kendra and Tricia Wachtendorf, "Rebel Food...Renegade Supplies: Convergence after the World Trade Center Attack" (Preliminary paper 316, Disaster Research Center, University of Delaware, Newark, DE, 2002).

preparedness as well as education to citizens within their respective battalions. This is not to imply they are restricted from crossing into other battalions to assist with this outreach.

On a local level, LAFD CERT has teamed up with local agencies, such as county public health Office of Emergency Services (OES), U.S. Geological Survey (USGS), and American Radio Relay League (ARRL), to participate in points of distribution (POD's) and to assist with large-scale exercises. Many of the VBC and other trained volunteers have embedded themselves into their communities and organize meetings held at their local fire and police stations. These meetings offer trained CERT volunteers an opportunity to interact with local first responders in a relaxed environment and promote active dialogue that can benefit both groups. Incorporating trained volunteers into structured agencies builds resiliency and provides greater familiarity with impactful professionals who are components of the whole community.

In addition, these trained volunteers act as liaisons to fire department administration and trained volunteers within a geographical area. As the program continues to grow, command and control becomes essential to the management of the trained volunteers. To combat the challenges of maintaining the defined span of control,<sup>96</sup> LAFD CERT instituted a CERT organizational structure to provide clear direction of the chain of command. Figure 1 illustrates the organizational chart of the CERT command staff and trained volunteer coordinators.

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<sup>96</sup> The span of control refers to the number of direct subordinates under any single individuals' command. The acceptable range for the span of control is three to seven resources with five being the optimum number. Federal Emergency Management Agency, "Incident Command System (ICS) Overview," accessed September 5, 2013, <http://www.fema.gov/incident-command-system>.

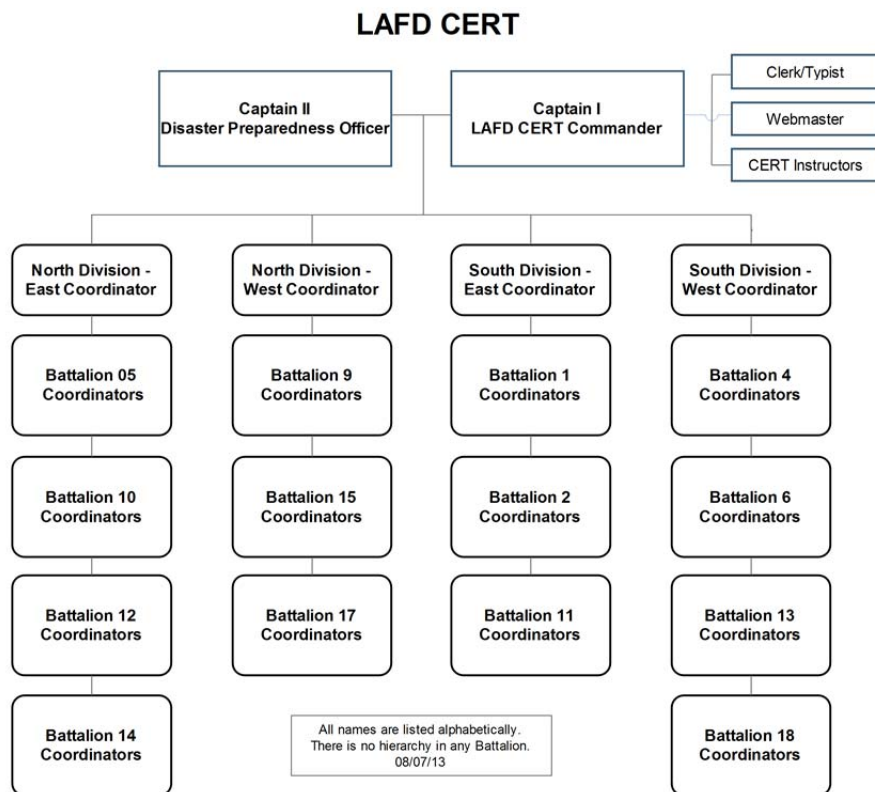


Figure 1. CERT organizational chart<sup>97</sup>

## E. TECHNOLOGY

The use of technology is not new to the LAFD CERT program. This chapter discusses technology as it pertains to tracking and pushing information to trained volunteers and the subject of interoperability, such as radio communications from volunteer to volunteer, volunteer to fire department and fire department to volunteer. It is important to understand the differences and how each component offers a unique platform in maintaining constant sharing of information.

<sup>97</sup> CERT Los Angeles, "CERT Organizational Chart," accessed April 2, 2014, <http://www.cert-la.com/CoordOrgChart.pdf>.



## 1. Tracking CERT Volunteers

When classes are conducted within the city, all participants fill out a registration form that captures such details as: name, address, home, work, and cell phone numbers. This information is then inserted into a database maintained by the CERT unit. The primary purpose of the database is to provide a means of measuring the successes of the CERT program and to justify its continued existence. As the interest for CERT in Los Angeles continued to grow, the idea to identify areas throughout the city with less trained volunteers became of interest. Using only addresses, mappers uploaded 58,000 data points into mapping software thus producing a visual account of these volunteers (identified as green dots in Figure 2). Although the points (dots) are not interactive (they do not populate information), these dots provide a visual testament to how widespread CERT volunteers are. To broaden the use of this information, two different layers were constructed: council districts and fire department battalions. First responder agencies utilize this technology to assist in location of physical addresses or coordinates in response to emergencies. Computer aided dispatch (CAD) systems operate seamlessly to integrate with GIS mapping. As important as mechanical resources, trained volunteers (CERT) also bring value to organizations who use them. Knowing where resources are located during a disaster can provide some normalcy to an otherwise chaotic situation. There is a need for further research to make this map interactive, which would increase its potential usefulness.

Trained volunteers are potential force multipliers and offer smoother transitions into emergency scene management due to their fundamental understanding of the incident command system. Past events have shown spontaneous volunteers flood areas in need. According to Barton, “The difficulties of integrating volunteers into the response are a sizable management task that can strain existing resources.”<sup>98</sup> In 1957, Fritz and Matheson identified three forms of convergence to describe the influx of people to a disaster area. What are not found in the literature reviewed are discussions of trained

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<sup>98</sup> Allen H. Barton, *Communities in Disaster: A Sociological Analysis of Collective Stress Situations* (Garden City, NY: Anchor Books, 1970), 65.

volunteers who respond to disasters either as formalized groups or individuals. Providing data that illustrates the presence of trained volunteers affords city officials an opportunity to identify gaps and ultimately apply target marketing and training to enrich those defined areas. Furthermore, geocoding of ongoing CERT deliveries proves useful in forecasting where trained volunteers might appear.

Weick (1993) makes similar reference to intra-organizational dynamics. This offers a description of LAFD's CERT program mission by describing how individuals (volunteers) operate in the framework of a complex, ever-changing environment. Knowing where trained assets are located before and after a disaster can assist fire and law agencies with additional resources and logistical support. Past, local, large-scale incidents have realized the value of trained volunteers working within an organized structure like fire and emergency medical services (EMS). During the 2008 California wild fires, hundreds of volunteers were mobilized and plotted on area maps for easy identification. The impetus for mapping LAFD firefighters, CERT, auxiliary communications service and crisis response team<sup>99</sup> members is to illustrate the coverage that currently exists to provide emergency response to the citizens of Los Angeles. The mapped data gives a clearer canvas of what to expect with regard to response capabilities during a catastrophic event. The data yielded the following points:

1. 18 percent of LAFD personnel live within the city.
2. CERT make-up the majority of points on each map
3. CRT are available resources to assist in crisis management
4. ACS members are a means of providing communication

## **2. Communication with CERT Volunteers**

Current practice for communicating with trained volunteers is accomplished using an internal communications system—critical incident application (CIA) enables the organization access to a specialized cadre of 211 trained volunteers who participate in

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<sup>99</sup> Volunteer members of the Crisis Response Team (CRT) are activated by the Los Angeles Police and Fire Departments to provide immediate on-scene crisis intervention, emotional support and referrals to victims and their families involved in traumatic incidents. LAFD-Crisis Response Team, "Volunteer Program," accessed July 21, 2013, <http://161.149.221.242/crt.htm>.

active call-outs.<sup>100</sup> The CIA is an LAFD internal means of notification and communication between the CERT program manager and field supervisors to all trained volunteers and volunteers who have provided their email addresses to receive current information regarding CERT. As a result of its ease of use and reach, LAFD CERT adopted this application as its main correspondence portal. Deploying CERTs to non-emergency incidents quickly highlighted a need for further training and tracking of volunteers' credentials, drivers' licenses, and vehicle insurance expiration dates. As mentioned earlier, the required courses to be a member of the cadre, this system was set up to track all requested/required information. An advantage of this system is its ability to reach large numbers of trained volunteers with one message. The CIA system has been modified to meet specific needs of the CERT program—tracking of expiration dates such as: CPR, first aid, and vehicle insurance. The system is easily adaptable making additional fields easy to add. This system will send messages to those volunteers nearing expiration in any field. These notifications will automatically reach the affected volunteer 30 days and 15 days prior to expiration, allowing ample time to update the area of concern.

Another advantage of the system is it allows CERT command the ability to push messages to over 2,700 volunteers. This simplifies the process of reaching the masses when trained volunteers are needed to assist first responders. The main use for this application has been to activate call-out members for specific tasks. Some examples would be the need to activate trained volunteers for fire patrol, hydration, wind and weather events and other incidents. The end user receives a voice message explaining the notification, who to report to, where to report, and the operational period for the event. The system can be structured to contact a specific number of volunteers needed to satisfy the mission at hand. Reports are received in 15-minute intervals along with names of those responding. One of the realized values of this system is in its ability to reduce the

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<sup>100</sup> Email correspondence with Ron Corona (Los Angeles Fire Department Management Information Systems), 2013.

time required to reach large numbers of trained volunteers in a short period of time.<sup>101</sup> Other uses of this technology will assist in the collaborative efforts of fire and law agencies. Examples of these efforts would include: missing persons, community events, and other special circumstances where trained volunteers would add a valuable public component.

If law enforcement were tied into this database, LAPD could potentially train the CERT cadre in what to look for, regarding a suspect, threat, or a criminal event. This information could be transmitted almost instantaneously via email, text, and other forms of social media. Having an active and engaged “posse” of CERT volunteers who live and work in virtually hundreds of communities around the city of Los Angeles helps in building resiliency within the city. With a trained cadre of volunteers who can pass information on to a network of friends and neighbors, there is a potential citywide network of community partners who ready to create a viral effect with critical law enforcement or fusion center information. To avoid a “spam” effect in their messaging, the involved agencies could create separate tiers for routine and critical messages and volunteers could opt out if they lost interest or relocated. Knowing where these trained volunteers are during a disaster or significant event can provide needed personnel to augment first responders.

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<sup>101</sup> The CERT unit to communicate information regarding incident status uses this system. The system is also used to request CERT resources to assist the fire department. Reports are generated every 15 minutes providing the status of the request. Los Angeles Fire Department, Critical Incident Application System [internal website].

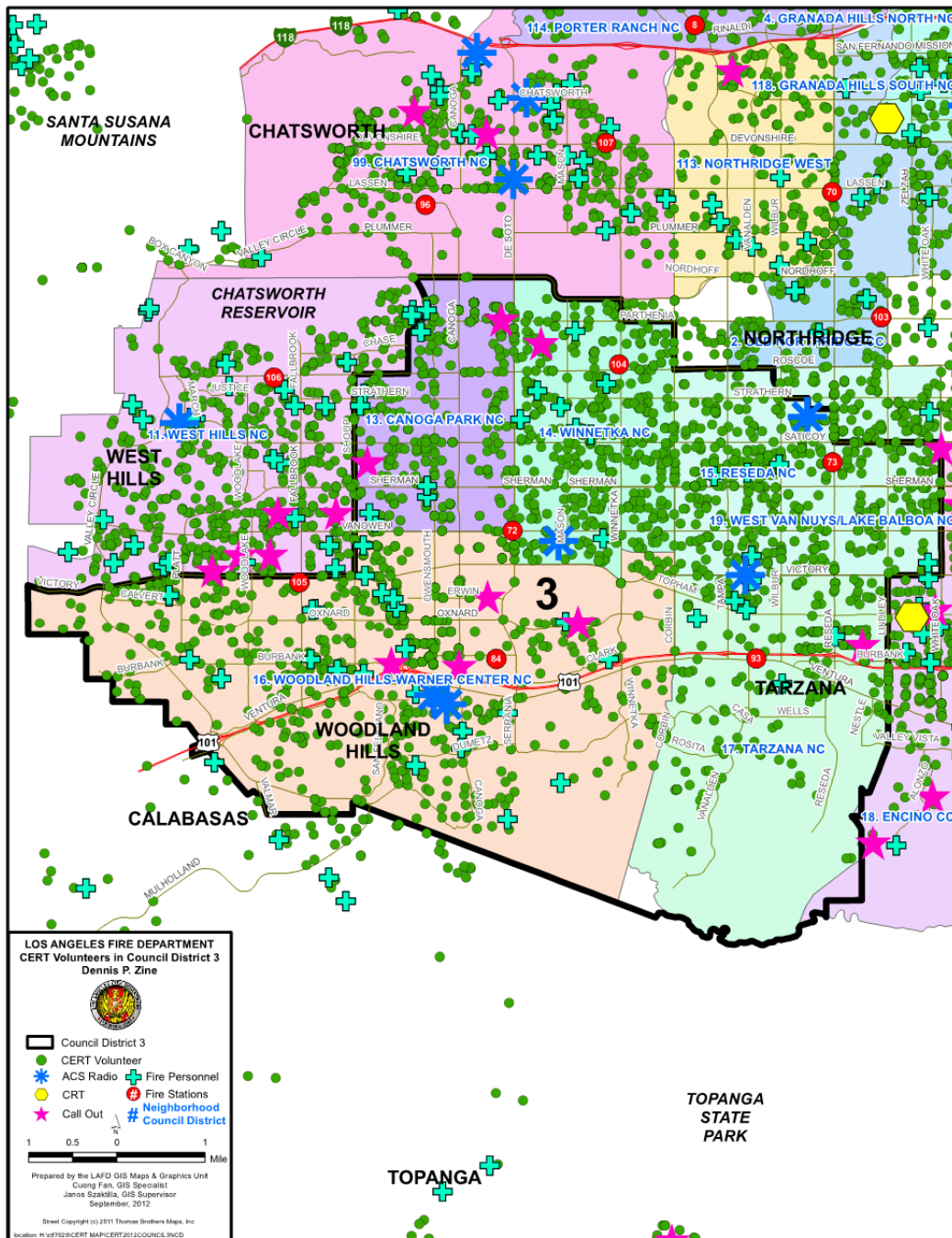


Figure 2. CERT volunteers and first responders in Council District 3<sup>102</sup>

<sup>102</sup> Los Angeles City Council, "City Council District 3," <http://council.lacity.org/Directory/CouncilDistrict3/index.htm>.

Using technology to evaluate Figure 2 enables local fire and law agencies the ability to target areas that are less dense with trained volunteers. The vision of city officials is to train 10 percent of the population, which equates to 400,000 citizens. With much of the work already done, local government can begin planning the next areas where CERT training should take place. The mapping of trained volunteer resources has made it increasingly clear that individuals with access and functional needs could be excluded due to the absence of legislation mandating registration with their city agencies. This potentially creates a problem in providing assistance during mass evacuation and transportation needs. In an attempt to exercise this assistance, the emergency management department collaborated with an outside agency to establish a “Neighborhood Disaster Plan” that consists of a five-step plan and a Just-in-Time Training DVD to assist communities with creating their own disaster plans.<sup>103</sup> A similar process to the mapping done for trained volunteers could be instituted to provide awareness of individuals who are disabled and have access and function needs.

### **3. Interoperability—ACS and HAM Radio Communications**

According to the *Thinkstream Blog*, “In 2007, LAFD dispatched its resources to over 70,000 emergency medical service (EMS) calls when county departments were closer to the scene.”<sup>104</sup> Current revisions are underway to address necessary modifications to the computer aided dispatch (CAD) system. These changes will produce a more effective allocation of resources to emergency responses. These advances will effectively create a wider, more robust interoperable network. Public safety will increase as this change affects other first responder agencies within Los Angeles to facilitate quicker responses and enhance their operational efficiency.<sup>105</sup> Interoperability for the

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<sup>103</sup> The Neighborhood Disaster Planning toolkit can be used to assist community members with constructing specific disaster and evacuation planning for their neighborhoods. Emergency Management Department, “Neighborhood Disaster Planning,” accessed August 22, 2013, <http://emergency.lacity.org/Readiness/NeighborhoodDisasterPlanning/index.htm>.

<sup>104</sup> *Thinkstream Blog*, “Los Angeles Fire Department Looks to Improve Interoperability with Dispatch Upgrade,” March 28, 2013, <http://www.thinkstream.com/wordpress/data-interoperability/los-angeles-fire-department-looks-to-improve-interoperability-with-dispatch-upgrade/>.

<sup>105</sup> *Ibid.*, 1.

citizens is equally important. When considering trained volunteers (CERT), an efficient plan must also be established to communicate rescue information from neighborhoods to fire and police personnel. A look into these CERT teams might offer clarity with regard to integration into a larger system. According to a post on *Thinksteam Blog*, “The ability of public safety, fire, law, and emergency management personnel to communicate (talk) seamlessly via one radio and data system without hindrances and across a wide area, such as a city, county or region.”<sup>106</sup>

The events of 9/11 put a spotlight on the issue of interoperability. As Americans watched the collapse of the twin towers, they were not aware the communications were fragile or even non-existent. As first responders rushed into help those inside, later it was discovered that police received orders to evacuate but due to failures in communications, fire and rescue personnel did not.<sup>107</sup> The public gained knowledge of this after the University of New Hampshire Advance Technology in Law and Society Project Study (ATLAS), which concluded non-interoperable communications, was partially responsible.<sup>108</sup> One of the identified gaps during the 9/11 attacks was the inability for government agencies, FDNY, NYPD, and Port Authority specifically, to communicate during the attacks.<sup>109</sup> Although this is not unique, communications are the foundation to daily operations of fire and law agencies. For a more comprehensive understanding of radio operations, consideration should be given to the role these trained volunteers play in the response and recovery operations when dealing with disasters. Other catastrophic events—Oklahoma City bombing and Littleton, Colorado Columbine shooting incident also revealed interoperability weaknesses resulting in increased response times during the school shooting.<sup>110</sup>

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<sup>106</sup> Ibid., 34.

<sup>107</sup> Ibid.

<sup>108</sup> Ibid.

<sup>109</sup> “Law Enforcement Still Unable to Communicate Ten Years after 9/11,” *Homeland Security News Wire*, September 7, 2011, <http://www.homelandsecuritynewswire.com/law-enforcement-still-unable-communicate-ten-years-after-911>.

<sup>110</sup> Ibid., 34.

As an organized group of volunteers, the LAFD Auxiliary Communications Service (ACS) is managed by the LAFD. Additionally, the group is recognized by the State of California Emergency Management Agency (CAL EMA) as a Disaster Service group.<sup>111</sup> As described earlier in this thesis, communications is vital to the response and recovery efforts following major disasters. LAFD ACS has amateur radio operators with prior training, practical drills, and logistical planning with the oversight from LAFD.<sup>112</sup> ACS volunteers function as CERT callout team members. Current practice includes incorporating the amateur radio operators in organized citywide CERT drills and department exercises to evaluate any communication gaps between LAFD's Metro Fire Dispatch (MFC), department operations centers (DOC) and local fire stations.<sup>113</sup> Additionally, following a catastrophic disaster, citizens are often evacuated to temporary shelters and/or similar locations where due to time no communications exist. ACS acts as a relay between those locations and MFC or DOC. Utilizing assets of this type saves time while providing reliable communication links.

The value of ACS should not be understated. The diversity offered to agencies involved allows fire and law organizations a solid conduit between civilians and local government. Incorporating ACS/CERT volunteers into neighborhood plans allows other functions to be addressed. These functions include extra "eyes and ears" following a disaster, these members can be mobile or housed in stationary observation points. This can assist fire department personnel in providing continual observation or "under patrol" capabilities.<sup>114</sup> The existing LAFD ACS continues to operate as a dynamic and flourishing program. The LAFD continues to support this program and acknowledges its value to the citizens of Los Angeles in time of crisis.

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<sup>111</sup> Theodore Fukushima, "The Los Angeles Fire Department Auxiliary Communications Service," May 15, 2012, <http://www.cert-la.com/radio/Introduction-to-the-LAFD-ACS-by-N6ZZK-05-15-12.pdf>.

<sup>112</sup> Ibid., 1.

<sup>113</sup> Ibid., 2.

<sup>114</sup> Ibid.



#### **4. How Social Media Influences Volunteers**

Social media and its use to disseminate disaster preparedness information via Facebook, Twitter, LinkedIn, and YouTube have become familiar as a means of sharing information. Currently, these platforms are being utilized to keep citizens informed on disaster preparedness, CERT trainings, instructional CERT related videos, and current events regarding readiness. FEMA reported in its 2013 *National Preparedness Report* that during and immediately following Hurricane Sandy, “users sent more than 20 million Sandy-related Twitter posts, or ‘tweets,’ despite the loss of cell phone service during the peak of the storm.”<sup>115</sup> Incorporating this technology has increased outreach exponentially. Local law enforcement uses “Nixle”<sup>116</sup> to push out information on crimes, traffic/road conditions relating to police activity, and general community information. By partnering with local law enforcement, the LAFD has been effective in incorporating life safety information in areas of brush clearance, compression only CPR deliveries, and local fire concerns through similar social media avenues.

#### **5. The World Wide Web and LAFD CERT**

The LAFD cert-la.com website also provides a portal to obtain CERT related information and through Google analytics.<sup>117</sup> LAFD CERT monitors the site in the following categories: volunteer traffic to such areas as instructional videos, CERT-related documents, partnership training with American Red Cross, CitizenCorps, FEMA, and other agencies CERT training and information about their programs. One of the advantages of the analytics is it enables LAFD CERT to make adjustments to the website based on the information captured. Unique innovations include adding additional

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<sup>115</sup> “How Social Media is Changing Disaster Response,” accessed August 24, 2013, <http://oo.com/social-media-changing-disaster-response-211500734.html>.

<sup>116</sup> Nixle provides governmental agencies and businesses a secure platform to communicate time sensitive information and multimedia exchange. Nixle, “About Nixle,” accessed August 24, 2013, <http://nixle.com/about.html>.

<sup>117</sup> Google analytics supplies information regarding return on investment (ROI) information to assist with the strength and weaknesses of websites as well as providing information regarding the traffic to flash video, social networking and applications associated with a particular website. Google, “Analytics,” accessed August 22, 2013, <http://google.com/analytics>.

instruction videos, using closed caption to assist with compliancy to Americans with Disabilities Act (ADA)<sup>118</sup> and providing videos with American Sign Language (ASL) interpreters embedded.

Figure 3 illustrates an example of the information available through the use of analytics. Analytics are used to provide valuable information and metrics that enable its users to access to necessary information related to the relevance of information available on specific websites. Visits record the number of actual individual sessions initiated by the user. Page views are tracked by designated tracking codes within Google analytics. The average visit duration is a calculation made within the analytics program. This value takes into consideration all visits and the times associated with those visits. The tracking of unique visitors looks for the actual number of people within a selected date range. Values associated with the pages/visit calculate how many pages were viewed and the number of visits to each of those pages.

Perhaps one of the most critical values depicted in Figure 3 belongs to the bounce rate.<sup>119</sup> High bounce rates—typically above 60 percent, are cause for concern according to Google analytics.<sup>120</sup> LAFD CERT uses Google analytics to monitor daily traffic to its website in order to provide current and pertinent information to its visitors.

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<sup>118</sup> Americans with Disabilities Act is legislation that affords equal rights to persons with disabilities and protects them from discrimination against those disabilities. Americans with Disabilities, “Information and Technical Assistance on the Americans with Disabilities Act,” accessed August 22, 2013, <http://ada.gov>.

<sup>119</sup> A high bounce rate is a percentage of visits to a single page of a website. Several factors can affect this percentage. *Google*, “Bounce Rate: Learn What a Bounce Rate is, and How to Improve It,” accessed August 23, 2013, <http://support.google.com/analytics/answer/1009409?hl=en>.

<sup>120</sup> *Ibid.*

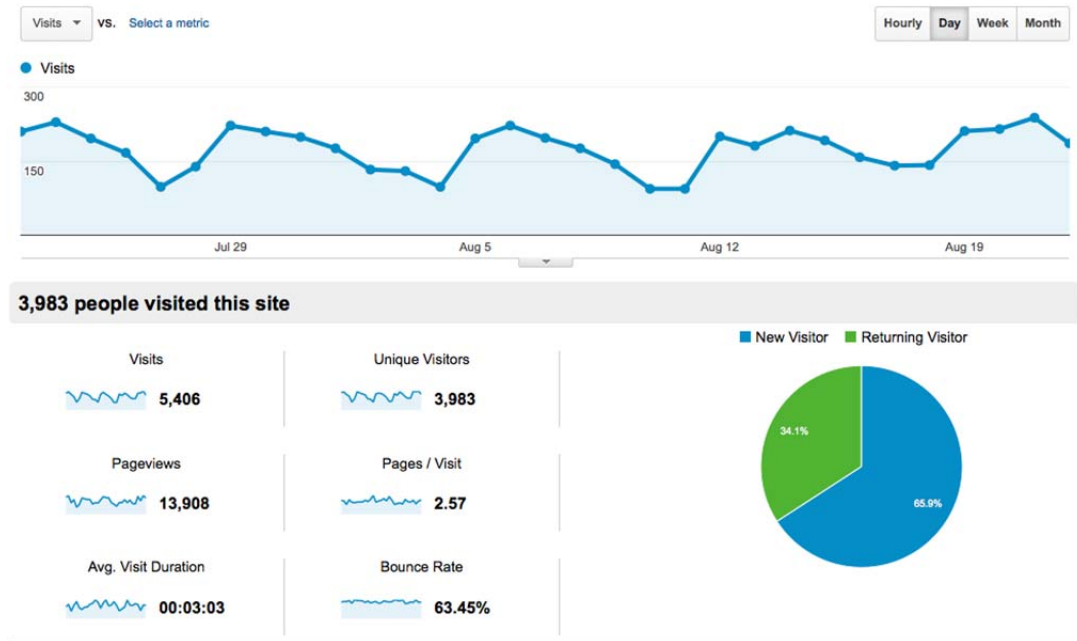


Figure 3. Google analytics example chart of CERT website traffic

The LAFD CERT website also maintains contact information to all CERT programs national wide. This site serves as a resource that enables citizens a repository of CERT training information, downloadable documents, training videos, and current CERT related drills. Other web sources have continued to increase opportunities to individuals, agencies and organizations through the 386 “Just In Time Disaster Training Videos.”<sup>121</sup> Several graduates of the CERT program have shared their personal experiences of the programs’ value by describing how they have used the training to mitigate emergencies. Hearing from CERT volunteers after experiencing real-life scenarios supports the value this type of training provides in the response to life saving measures.

## 6. There’s an App for That: Smartphones and CERT

To aid in the retention of information and skills, smartphone applications are items of interest to CERTs. In Los Angeles, CERT trained volunteers who are actively engaged within their communities use applications correlated to the CERT course

<sup>121</sup> Just In Time Disaster Training Library, “CERT,” accessed August 24, 2013, <http://www.JustInTimeDisasterTraining.org>.

content. Having an app for fire, triage, search and rescue, and hazardous materials are a few examples of some of the available reference sources (see Table 5).

Table 5. CERT smartphone apps

App	Description
CERT Fire Safety	The CERT fire safety app presents course material for the fire suppression module from the CERT participant manual. The app allows users easy navigation through classifications of fire, fire extinguishers, identification and proper handling of hazardous materials, and situational awareness with regard to the overall management of fires and hazardous material incidents. <sup>122</sup>
<i>Emergency Response Guidebook 2012 (ERG)</i>	The ERG is widely used by first responders to identify a specific and/or generic hazard of material(s) involved in an incident and provides guides to protecting themselves and the general public during the initial response phase to these incidents. <sup>123</sup>
Mass Casualty Incident (MCI) Triage	This app simplifies tracking of survivors involved in large-scale incidents typically involving five or more. It also allows users to quickly categorize survivors into one of four categories describing the level of severity and order in which they would be treated and their location via global positioning system (GPS), which can be relayed to

<sup>122</sup> "CERT Fire Safety," accessed February 9, 2014, <https://itunes.apple.com/us/app/cert-fire-safety-reference/id459542289>.

<sup>123</sup> "HazMat Reference and Emergency Response Guide [App]" accessed February 9, 2014, <http://www.thatsmystapler.com/erg/>.

App	Description
	the incident commander during the event. <sup>124</sup>
CERT Field Operating Guide (FOG)	The CERT FOG is a compilation of information in basic CERT instruction. The guide provides users with quick reference to areas most likely to involve CERT trained volunteers: disaster preparedness, disaster medical operations, fire suppression and hazardous materials, search and rescue, flood training, disaster review sheets, and CERT organization. <sup>125</sup>

The use of smartphone apps pertaining to CERT might depend on the volunteers' comfort with technology and their participation in an active program. LAFD CERT utilizes a wide variety of apps and social media to enhance the volunteers' experience and abilities to reference material that is often complex. Other useful and well-visited areas on the cert-la.com website are the training videos. These videos provide step-by-step instruction of topics related to the CERT curriculum and skills. Examples of those videos are:<sup>126</sup>

- How to use a fire extinguisher
- Performing the head-to-toe physical exam
- Bandaging and splinting injuries

Technology offers a variety of platforms and innovative ways to pique the interest of individuals engaged in the whole community concept. This technology affords citizens

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<sup>124</sup> iTunes, "MCI Triage, Island Software," 2010, <https://itunes.apple.com/us/app/mci-triage/id355467271?mt=8>.

<sup>125</sup> "CERT Field Operating Guide (FOG)," July 2011, [http://bsccert.files.wordpress.com/2011/07/cert\\_fog.pdf](http://bsccert.files.wordpress.com/2011/07/cert_fog.pdf).

<sup>126</sup> CERT Los Angeles, "Community Emergency Response Team," accessed February 10, 2014, <http://www.cert-la.com/videos/cert-videos.htm>.

and CERT and professional first responders the ability to share information that can increase situational awareness and the overall management of catastrophic events.

## **F. OVERCOMING INTERNAL CULTURAL BARRIERS**

The inclusion of trained volunteers does not resonate well within the fire culture. There are several reasons for this. For one, CERT volunteers have a green helmet and vest that serves as their uniform. They are not issued a standard uniform and often appear unprofessional. This contributes to the fire organizations' hesitancy to take them seriously. Firefighters are required to be properly attired in their uniforms when dealing with the public and responding to emergency calls. There are few occasions when the uniform is not worn. However, the volunteers' uniform remains an area of concern and continues to be discussed with upper management.

Aside from CERT volunteers, the department also has fire cadets and other civilian volunteer groups. While the cadets are given a uniform consisting of a light blue shirt and uniform pants. Discussion around all volunteers donning the same uniform has caused delays in reaching consensus over uniforms for CERT volunteers. Management personnel, who do not buy-in to the use of CERT volunteers within the organization, have not been able to understand the importance of differentiating these volunteers from fire cadets who work side by side with firefighters and are an accepted group within the organization. These cadets wear a light blue shirt, dark blue pants, black belt with fire department buckle, and black boots that are the same as paid LAFD uniform personnel wear. The largest obstacle preventing the implementation of these uniforms currently resides in fire department administration. CERT volunteers are focused on wearing green shirts because green is the universal CERT color.

In emergency situations, the incident commanders' ability to recognize resources is paramount to the overall control and accountability of those resources. Firefighters have their names stenciled on the back of their personal protective equipment (PPE). This

uniformity is standard for all LAFD firefighter PPEs.<sup>127</sup> The ability to differentiate between CERT volunteers, fire cadets, and firefighters is essential in any emergency situation so personnel are not tasked with operating outside of their scope of knowledge. As long as CERT volunteers remain an integral component of fire department operations, the need to identify them is essential to their well-being.

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<sup>127</sup> Los Angeles Fire Department, “Personnel, Procedures/Uniforms” (3/7-55.01) (vol. 2), 1985, <http://www.lafdtraining.org/ists/volume2v0805.pdf>.

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## V. FINDINGS AND RECOMMENDATIONS

The research question presented in this thesis was “how LAFD CERT may be understood as a smart practice: how it is pioneering a transition to Whole Community CERT and how it can serve as a template for CERT programs nationally?” This chapter summarizes the smart practices described in Chapter IV, distilling them into recommended action items for CERTs across the country.

These implementations might cause challenges to other CERT programs depending on the size of the population, existing volunteer programs within the specific jurisdictions, the lead agency’s (law or fire) organizational structure and the overall management of trained volunteers. Due to its popularity, CERT now exists nationally and internationally. The jurisdictions in which CERT resides or where it is sought will bring a variety of challenges and/or limitations. Some of these may be resolved through developing relationships with emergency managers, appointed and elected officials, and neighborhood councils.

To assist cities with understanding the process and requirements of starting a CERT program, FEMA provides a link to California Volunteers that maintains state and national CERT program registries. Having access to this information can assist CERT programs who are either just starting out or updated their existing programs.

The LAFD CERT program has been successful in forging strong bonds between its other city agencies as well as the public and private sectors. The city of Los Angeles houses 43 departments and bureaus and 23 or 53 percent have received CERT training.<sup>128</sup> There are also 93 neighborhood councils of which 54 or 56 percent have received CERT training. Realizing the difficulty in understanding what those numbers truly represent, the following comparisons illustrate the true awesomeness of Los Angeles Fire Department’s CERT program (Table 6).

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<sup>128</sup> City of Los Angeles California, “Departments and Bureaus,” accessed April 2, 2014, <http://lacity.org/government/DepartmentsandBureaus/index.htm?laCategory=1962>.

Table 6. CERT program comparisons<sup>129</sup>

<b>ORGANIZATION</b>	<b>YEAR ESTABLISHED</b>	<b>DELIVERIES/YEAR</b>	<b># TRAINED YTD</b>
LAFD-CERT	1987	70	60,000
NYC-OEM	2003	2	3000
MIAMI-DADE	1998	8	2478

It is recognized that LAFD CERT program has existed longer than any other, but its numbers of CERT deliveries should be recognized and applauded. Keeping a CERT program that builds community resilience even during times of economic and budgetary cuts has been possible through persistence and dedication through the partnerships between local government and the public and private sectors. With regard to standardization and implementation of the recommendations, each jurisdiction will need to survey its lead organizations' policies and procedures to determine the most beneficial approach to their execution.

## **A. RECOMMENDATIONS**

### **1. Develop Emergency Operations Plans that incorporate CERT**

The LAFD Emergency Operations Plan (EOP) explains how the community will prepare for, respond to, and recover from an emergency or disaster. Having a program such as CERT adds resources that can be beneficial to the overall operations during disasters. Without proper planning and organization of these assets, the convergence of resources on any situation can become chaotic.

As part of the CERT training curriculum, CERT volunteers are exposed to ICS. They learn the fundamentals of the system and how they fit into that type of a system. Emphasis should be placed on how CERT volunteers can truly add to the situational awareness and overall outcome of a disaster. ICS provides the foundational understanding for that to occur.

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<sup>129</sup> Community Emergency Response Team, "Directory of Community Emergency Response Team Programs by State," accessed March 12, 2014, [http://www.citizencorps.fema.gov/cc/CertIndex.do?submitByState=.](http://www.citizencorps.fema.gov/cc/CertIndex.do?submitByState=)

The Incident Command System (ICS), developed in the mid-1960s, is used as a means of managing emergency operations during an incident. As CERTs are activated, they become absorbed into the framework of ICS. CERTs follow the basic ICS structure that emergency response agencies utilize. The first resource or CERT volunteer, who arrives at the scene of the disaster, becomes the incident commander/team leader (IC/TL).

The IC/TL is an integral component to the operation. Utilizing ICS helps ensure that CERT members report through a chain of command to the IC/TL. As professional first responders arrive, the IC/TL reports to the first law or fire resource at the location and takes direction from the individual. By having this structure in place, CERT volunteers have a clearer understanding of how to effectively work within their communities and how to communicate their status and needs to professional first responders.

ICS is a component of the National Incident Management System (NIMS).<sup>130</sup> Similar to ICS, NIMS was established to assist first responders, as well as CERT members, from different jurisdictions and disciplines, the ability to work more efficiently and effectively when responding to disasters and emergencies.

- As discussed in Chapter IV, utilizing an organizational structure and identifying CERT volunteers within that framework, aids in the overall management of these resources during an emergency or disaster.
- **Utilize CERT in operational drills and real events that will enhance the working relationships between volunteers and first responders.**

Mutual training that involves both first responders and CERT volunteers can have a large impact during disasters. By allowing CERT trained volunteers to work alongside professional first responders, a mutual understanding for each group might emerge making real life scenarios more manageable. Giving trained volunteers these opportunities might also assist in identifying different skill sets.

First responders train regularly for multi-faceted disasters and emergencies. Because disasters are not predictable, incorporating CERT volunteers into these

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<sup>130</sup> Federal Emergency Management Agency, "National Incident Management System," last modified June 4, 2013, <http://www.fema.gov/national-incident-management-system>.

scheduled drills can have a dramatic effect on their outcome. By including CERTs, a better relationship can be forged between these groups while allowing first responders an opportunity to realize the CERTs capabilities and skill sets.

Inviting trained volunteers to participate in drills and exercises that are coordinated by law and fire agencies will serve to familiarize them with the expectations and standard operating procedures of these professionals. It is not unusual for either agency to reach out to the public when it is in need of CERT volunteers to assist in drills. Having access to these resources can greatly enhance the delivery of these exercises while providing a direct working environment between trained volunteers and first responders.

A model worth mentioning currently can be found in the United Kingdom. St. John Ambulance Company trains volunteers in first aid so that they are able to assist at local events and are considered “community first responders.” They respond to emergency calls and provide care until ambulance personnel arrive. These volunteers also provide transportation of the patients without life-threatening injuries or symptoms.<sup>131</sup>

While this type of inclusion into the current structure present in Los Angeles would not be entertained for myriad of reasons—legal, political, and unions, it does warrant further research. Although those reasons exist during normal operations, it is often stated that rules go out the window following a major disaster, which might then lend to our trained volunteers assisting in those capacities. Another noteworthy example of the value of having trained citizens was illustrated during a large-scale exercise at the Los Angeles International Airport where volunteers were called upon to assist the city.

In 2007, a full-scale exercise was conducted at Los Angeles International Airport (LAX). These types of exercises are required by the Federal Aviation Administration (FAA) once every three years to evaluate the operational capability of LAX’s emergency management system. Including more than 700 participants—including 200 volunteers

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<sup>131</sup> St. John Ambulance Company, “Community First Responders,” accessed March 8, 2013, <http://www.sja.org.uk/sja/what-we-do/community-first-responders.aspx>.

playing mock “victims” and “family members”—the exercise is one of the largest full-scale drills among all U.S. airports.<sup>132</sup>

Another incident worth noting that provides extensive examples of CERT volunteers working with multi-jurisdictional first responders and other CERT volunteers is the Station Fire, August 2009. This event exemplifies the value of mutual aid capabilities and the integration of volunteers into the ICS. For a 1-week time frame, 744 volunteers checked into the command post and logged in 5154.5 hours.<sup>133</sup> The Santiago Canyon fire in October 2007 also showed CERT volunteers’ value to their community. CERT volunteers who assisted during this disaster provided food and services to the safety crews located at the command post.<sup>134</sup>

These are only a few examples of what CERT volunteers can contribute to their communities and agencies that use them. Including trained volunteers in exercises, drills, and real-time disasters helps to build the cohesion needed when we are faced with an event that clearly overwhelms city services. For that reason, including CERT volunteers into drills and events of this scale need to be instituted into policy thereby making them “common practice.”

## **2. Establish Prerequisite Training Courses for CERT**

A majority of CERT programs operate under fire or law agencies. Because these organizations, like many others, utilize the Incident Command System (ICS), CERT volunteers should be encouraged to complete basic ICS courses (100, 200, 700) to increase awareness and understanding of incident management practices and to be

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<sup>132</sup> “Los Angeles International Airport to Test Emergency Response with Full-Scale Simulated Aircraft Disaster,” Market Wire, news release, May 14, 2007, [http://markets.financialcontent.com/stocks/news/read/2034177/Los\\_Angeles\\_International\\_Airport\\_to\\_Test\\_Emergency\\_Response\\_With\\_Full](http://markets.financialcontent.com/stocks/news/read/2034177/Los_Angeles_International_Airport_to_Test_Emergency_Response_With_Full).

<sup>133</sup> Community/Law Enforcement Partnership Programs Unit, *Station Fire Volunteer after Action Report* (Monterey, Park, CA: Los Angeles Sheriff’s Department, 2009), <http://www.exchangor.com/CERT/Info%20from%20Mike%20During%20TTT%2003-19-2012/CERT%20Resource%20Material/Resource%20Documents/Station%20Fire%20Volunteer%20AAR.doc>.

<sup>134</sup> Kelly Strodl, “Without Hesitation,” *Daily Pilot*, October 25, 2007, [http://articles.dailypilot.com/2007-10-25/local/dpt-certused25\\_1\\_disaster-volunteer-brisbois-costa-mesa](http://articles.dailypilot.com/2007-10-25/local/dpt-certused25_1_disaster-volunteer-brisbois-costa-mesa).

compliant with the NIMS standard. Requiring CERT volunteers to obtain certificates in these courses assists in providing documentation that can be stored in a database should the need arise to show proof of knowledge. Chapter IV discussed some of the advantages and disadvantages with using professional first responders (Table 3) versus CERT trained volunteers as instructors (Table 4). Requiring courses that prepare or at least familiarize these volunteers to command and control functions of ICS, might offer a smoother transition when they are actually inserted into real-time events. It is important to remember that these trained volunteers do not typically use such structured approaches to everyday life. Understanding this might present a gap in volunteers' ability to assimilate into a command role. Agencies who activate CERT volunteers during times of disasters can realize a greater benefit to the mission of transitioning from the response phase to the recovery phase of disasters when they have taken steps to require this knowledge ahead of time.

Each jurisdiction that utilizes CERT volunteers may have different requirements. However, the minimum required courses to be NIMS compliant are ICS 100a and 700b.<sup>135</sup> There are a large number of these independent courses available and CERT volunteers should be encouraged to complete those that are required and/or recommended by the agency with whom they volunteer. Just as a side note, for individuals who do have Internet access, course materials can be obtained through FEMA in hardcopy. Providing trained volunteers with alternative methods of staying engaged and increasing their knowledge enhances not only the volunteers experience but also, their worth to their associated agency.

### **3. Develop a Notification System that Can Assist in Reaching CERT Volunteers on Different Platforms**

One of the challenges for agencies to use CERT volunteers as resources is how to notify them. Typically, CERT volunteers are instructed not to self-dispatch. There will be times when this instruction is not adhered to and having a system in place to facilitate

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<sup>135</sup> FEMA Emergency Management Institute, "Independent Study Program," last modified January 17, 2013, <http://training.fema.gov/IS/crslist.aspx>.

communicating with CERTs is a critical component to the emergency operations plan. Technology offers many platforms to enhance an agency's ability to effectively communicate timely information to their personnel, CERTs included. A critical component to the success of this operation lies in knowing which platforms the communities within your jurisdiction are using.

Chapter IV briefly discussed the use of social media and HAM radio operations. With regard to social media, the more popular applications at the time this research was conducted include the following;

1. Facebook
2. Twitter
3. Nixle
4. YouTube

Regardless of the platform selected, and it may be more than one, there are guidelines and etiquette associated with these forms of communication. Rules of engagement apply to all users. With that in mind, training in social media content becomes paramount when sharing information across these mediums. CERT volunteers do not use these forms of communication in daily emergency responses—regularly communicating with first responder agencies. The ways in which most people express feelings and thoughts between friends is not the acceptable format when relaying disaster specific details to a command structure.

Other concerns relating to notification revolve around the ability to determine if sent messages are received. Some email addresses can be setup to request a receipt of delivery. Not all email carriers allow that process so other options need to be instituted. To illustrate this point, the following example is offered: An exercise initially scheduled to occur at a specific location was sent out to CERT volunteers via email, text messaging, and an automated phone system—similar to a reverse 911. When the venue location changed, a follow up notification was necessary to ensure all concerned parties would respond where needed. Having a tested and reliable system in place to assist with such messaging can greatly affect the outcome of the task.

Whatever forms of communication are utilized to relay messages, either prior to or during an event, need to be reliable. The ability to convey information in real time can make the difference between life and death. Depending on the situation, some of these platforms may be more efficient than others and different scenarios might dictate the most appropriate avenue for disseminating information relating to the incident.

The ability to reach large numbers of trained volunteers during a disaster can provide increased situational awareness to command staff. Developing communications plans, social media groups, and two-way communications can aide in the overall response and recovery efforts of a catastrophic event.

#### **4. Establish a Work Uniform for CERT Volunteers who Actively Participate in the Callout System**

Chapter IV offered a lengthy discussion on uniforms for CERT callout members. The LAFD callout database has over 200 trained volunteers who regularly interact with first responders, and the ability to recognize volunteers as a group can be extremely vital to their wellbeing and that of others. Volunteers of the majority of CERT programs nationally wear a green helmet and vest as their uniform. While these items help in identifying CERT volunteers, they do not provide sufficient identification or protection during certain deployments.

CERT volunteers within the LAFD have a strong desire to wear more formal uniforms that identify them to others within the organization. Uniforms help individuals of a similar group feel more appreciated while providing a sense of solidarity. Other benefits of uniforms are they provide the wearer with a sense of importance and acceptance.

To assist in this endeavor, it is recommended that neighborhood councils and council districts survey their constituents to obtain numbers of CERT trained volunteers who are currently in the callout system. This group will be the first to receive this uniform based on their level of engagement with the LAFD and their respective communities. Once identified, funds can be allocated to purchase uniform shirts that should be made of fire retardant material (nomex) and the color should be hunter green.



CERT members themselves would be responsible for acquiring the proper pants, which would be decided upon by the following city agencies: Emergency Management Department (EMD), Los Angeles Fire Department (LAFD), and the Mayor of Los Angeles.

Once all parties have agreed to the uniform, the CERT code of conduct shall be updated to reflect the change. Equally, all members shall receive a memo stating when the uniform will be ready and a start date when they will be considered the official uniform for CERT callout members.

**5. Utilize LAPD CERT Trained Officers to Co-instruct with LAFD CERT Instructors to Build a More Robust Training Cadre with a Broader Skill Set**

Also discussed in Chapter IV was the current delivery of CERT by sworn firefighters. At the time of this research, the CERT unit had four firefighters delivering the CERT training and the chances of that number increasing is doubtful. The LAPD currently has 164 senior lead officers (SLO) whose primary responsibilities include engaging the communities they patrol. Training the SLOs could conceivably add 164 new instructors to the CERT cadre thereby enabling an increase in trained volunteers throughout Los Angeles. The addition of SLOs is equivalent to a 96 percent increase in available trainers helping to ensure an uninterrupted schedule of available classes as well providing bilingual delivery capabilities, which does not currently exist. The inclusion of officers would be a more appropriate shift, as they are focused on protecting and serving the citizens of Los Angeles and are already part of the city family.

Other benefits potentially realized by including LAPD officers might be in the ability to deliver CERT to other groups of citizens who have other special needs. An example might be delivering training through American Sign Language (ASL) or other languages spoken within the city. Some examples would be Korean, Armenian, and Spanish.

Because LAPD has a much larger number of personnel (10,023)<sup>136</sup> versus LAFD (3,600),<sup>137</sup> this new delivery model would be another step toward whole community. With approximately four million residents in the City of Los Angeles, the need to expand the current teaching cadre is clear.

The purpose of this research was to take a deep look into the first of its kind, Community Emergency Response Team program and present it as a smart practice and one that is pioneering a transition to Whole Community CERT. The purpose of this case study was to provide a document that other programs or those wishing to start a CERT program, would give a more detailed account of what is involved while incorporating public and private sector entities toward building a whole community model.

Linking programs between the Emergency Management Department (EMD), LAFD and LAPD—CERT, neighborhood watch, Community Police Advisory Board (CPAB), auxiliary communications, etc., could increase the levels of involvement and availability so communities can construct teams within individual neighborhoods and establish the missing links between first responders and the citizens they serve.

With the collaboration of these agencies, a new Los Angeles City CERT Program (LACCP) would be borne. This new approach will require time and organizational agreements to achieve the goal of training 400,000 or 10 percent of the city's population in CERT. Through this collaboration, the mission to provide public safety will produce an educated citizenry that demonstrates strength and solidarity.

Citizens inherently want to feel connected and useful. Volunteering, as discussed in the literature review, is not new. Providing a bridge from each community to city agencies has been shown to build trust as well as provide the necessary transparency citizens expect. The LAFD CERT program has endured 28 years of success in preparing the citizens of Los Angeles to be more self-sufficient and equipped with skills that could

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<sup>136</sup> Larry Altman, "LAPD Announces Milestone Number of Officers," South Bay Crime & Courts," March 2, 2009, <http://archive.is/H9OUP>.

<sup>137</sup> Los Angeles Fire Department, "About the LAFD," accessed March 7, 2014, <http://www.lafd.org/about.htm>.

possibly save lives. Although not all organizations, communities, and territories share similar geographic footprints or population density to Los Angeles, this thesis provides the structure of a tested program that can be adapted to most communities.

Disasters and large-scale events help remind citizens about the importance of being informed and prepared. The Federal Emergency Management Agency (FEMA) assists by providing information and online training in areas of mitigation, prevention, preparedness, response, and recovery. Bringing this information to the citizenry by way of CERT provides greater opportunity in achieving “whole community” inclusion while building necessary relationships between the public and private sectors. LAFD CERT has been successful in this area as evidenced by the number of individuals trained annually and continues to remain committed to contributing to the homeland security enterprise.

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